

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 09/684554

Filing Date: October 6, 2000

Title: ADENO-ASSOCIATED VIRUS VECTORS AND USES THEREOF

Page 2

Dkt: 875.024US1

In the Drawings

Enote →

Substitute drawings for Figures 1-16 and 18-27 are enclosed herewith.



TITLE: A NO-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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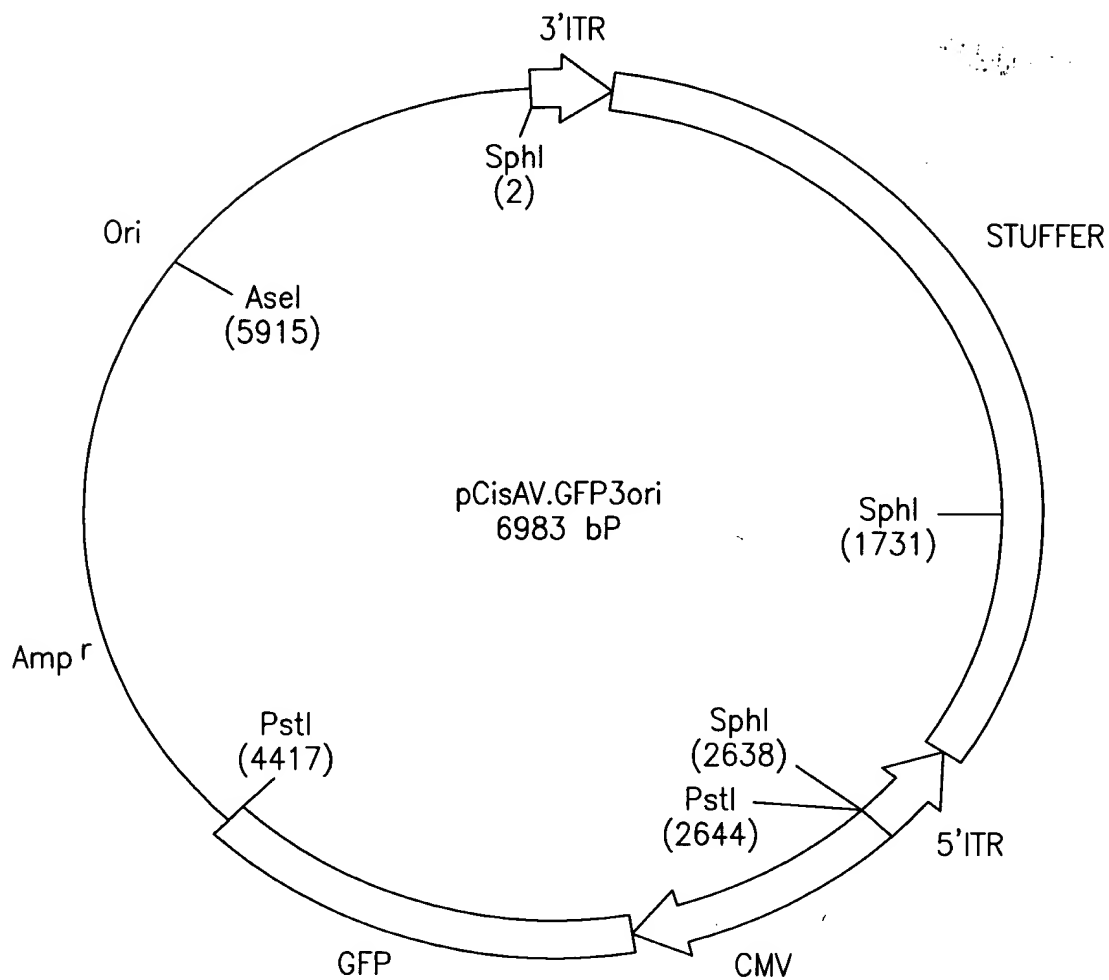


FIG. 1A

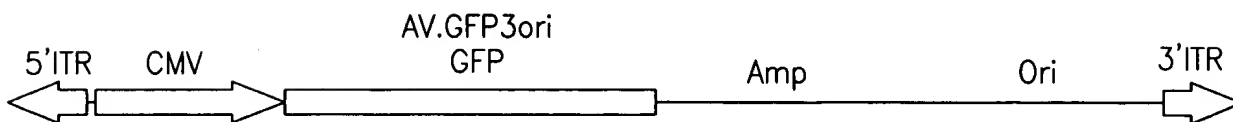


FIG. 1B



TITLE: A NO-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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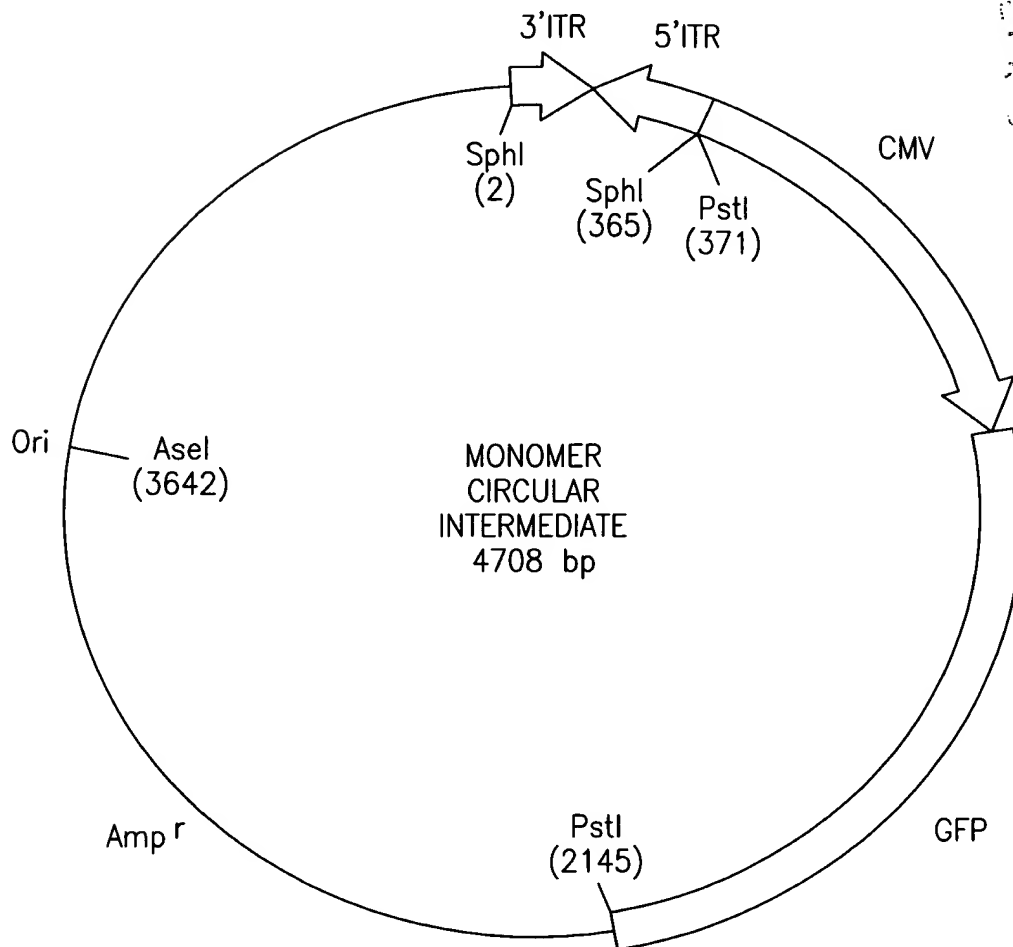


FIG. 1C



TITLE: A Δ10-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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INFECT HELA CELLS AND MUSCLE WITH AV.GFP3ori

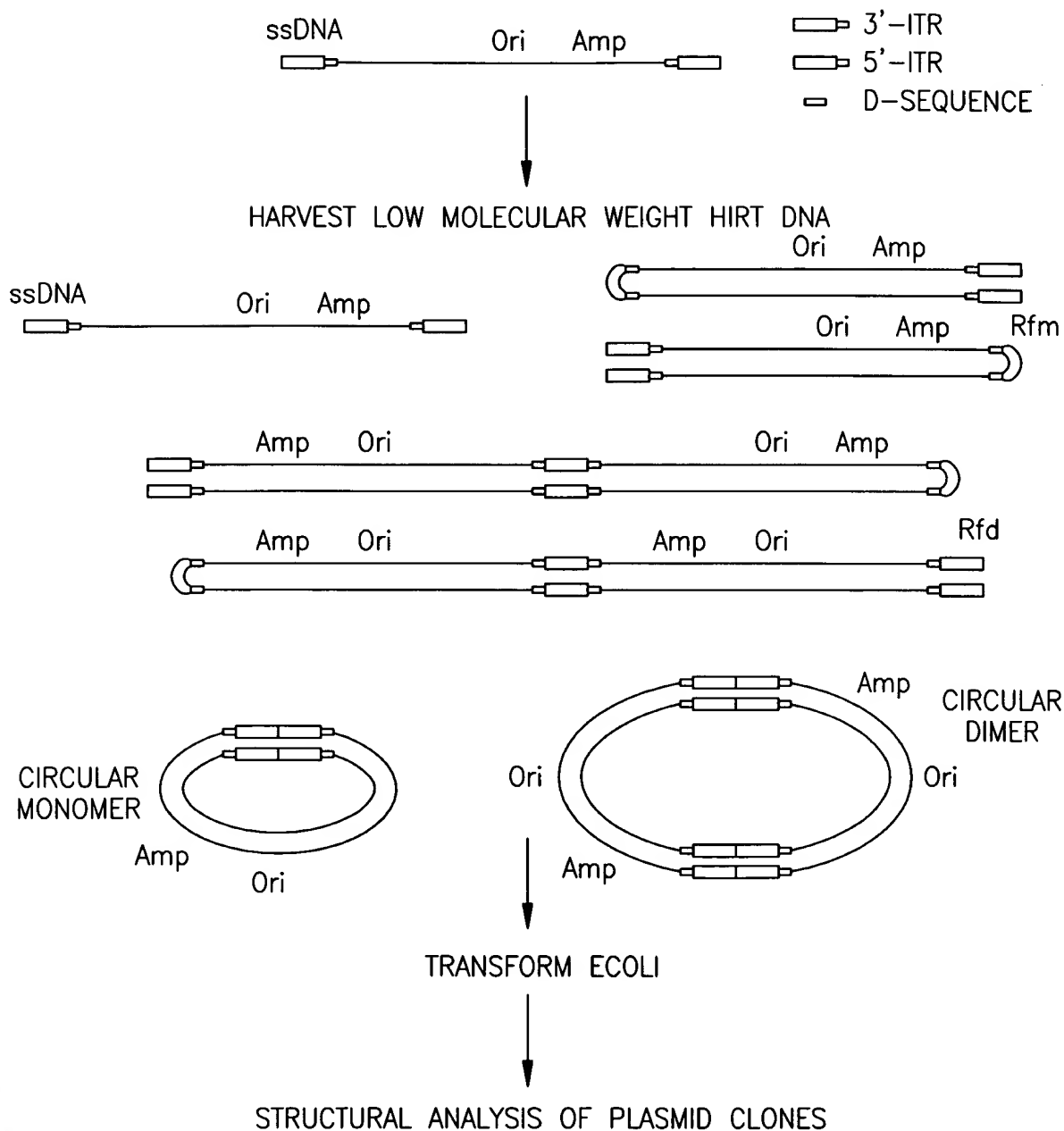


FIG. 1D



TITLE: A...O-ASSOCIATED VIRUS VECTORS AND USE...HEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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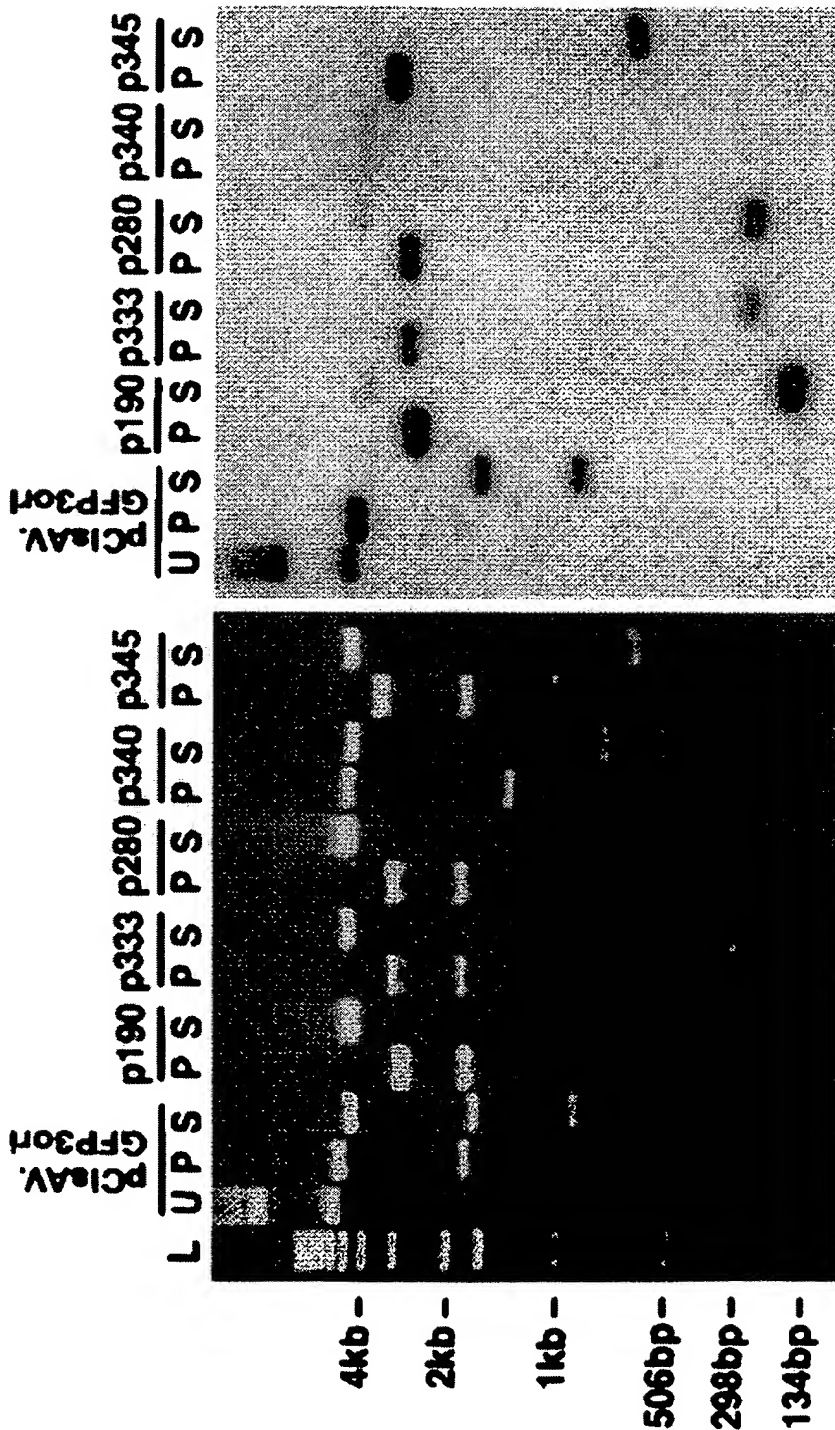


FIG. 2A



TITLE: A...O-ASSOCIATED VIRUS VECTORS AND USE...HEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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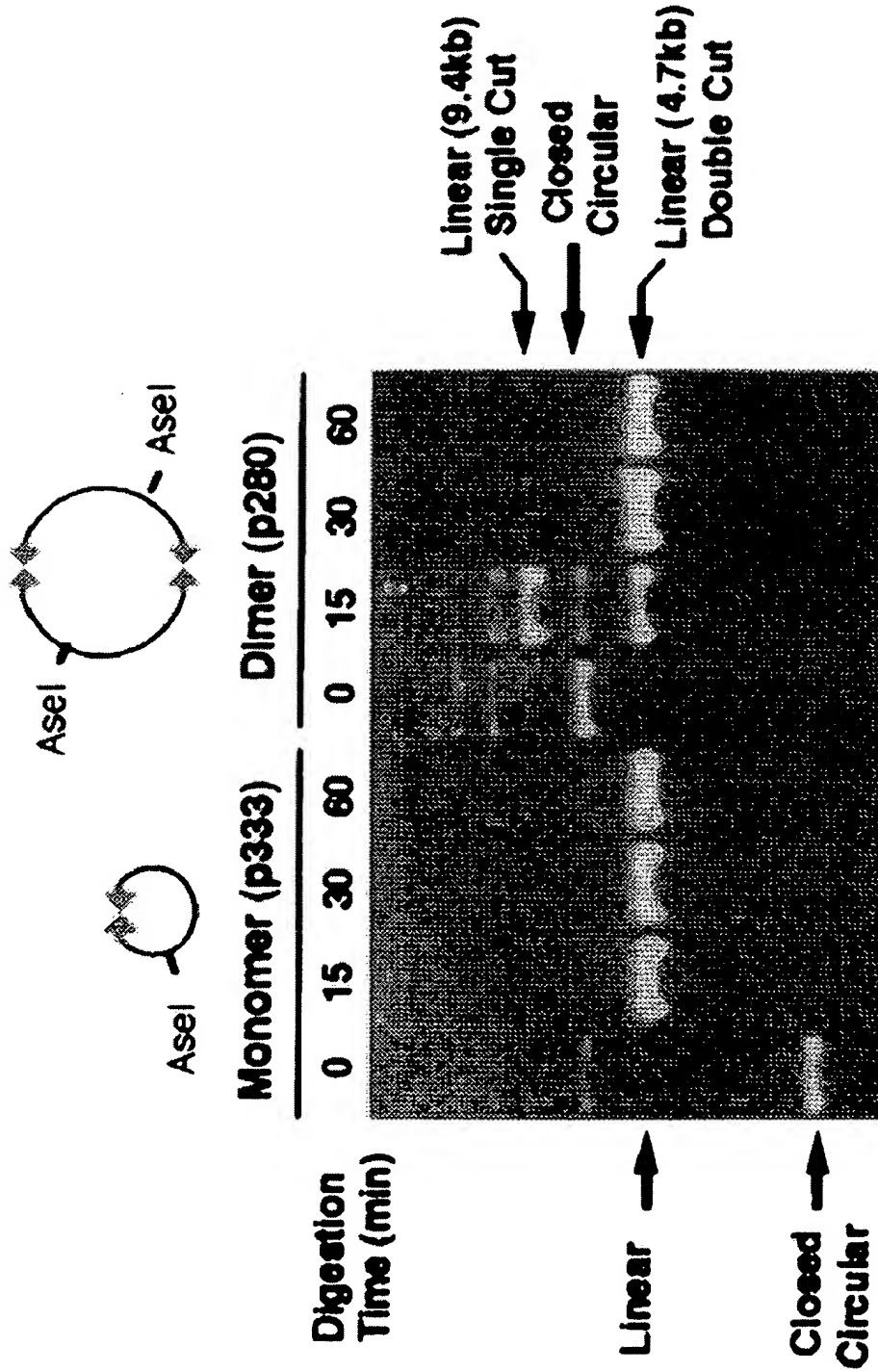


FIG. 2B



5'<->3' ITR	10	20	30	40	50	60	SphI	70	80	90	100	110
p79	CGGGGGTGT	TGGCGGTCA	GCCAGGCGG	CCATTACCG	TAACTTATGT	AACGACTGCA	GGCATGCAAG	CTCGAATTCA	TCCGTTAGATA	AGTAGCATGG	CGGGTTAATC	
p80	-----	-----	GGCGGG	CCATTACCG	TAACTTATGT	99CGACTGCA	GGCATGCAAG	CTCGAATTCA	TCCGTTAGATA	AGTAGCATGG	CGGGTTAATC	
p81	-----	-----	GG	CCATTACCG	TAACTTATGT	AACGACTGCA	GGCATGCAAG	CTCGAATTCA	TCCGTTAGATA	AGTAGCATGG	CGGGTTAATC	
p86	-----	-----	GG	CCATTACCG	TAACTTATGT	99CGACTGCA	GGCATGCAAG	CTCGAATTCA	TCCGTTAGATA	AGTAGCATGG	CGGGTTAATC	
p87	-----	-----	GG	CCATTACCG	TAACTTATGT	AACGACTGCA	GGCATGCAAG	CTCGAATTCA	TCCGTTAGATA	AGTAGCATGG	CGGGTTAATC	
p88	-----	-----	G	CCATTACCG	TAACTTATGT	AACGACTGCA	GGCATGCAAG	CTCGAATTCA	TCCGTTAGATA	AGTAGCATGG	CGGGTTAATC	
5'<->3' ITR	120	130	140	150	160	170	180	190	200	210	SmaI	220
p79	ATTAACTACA	AGGAGCCCT	AGTATGAGG	TTGGCCACTC	CTCTCTGCG	CGCTCGCTCG	CTCGCTGAGG	CGGGGCGACC	AAAGGTGCGC	CGACGCCCG	GCTTTGCCCG	
p80	ATTGCTACA	AGGAGCCCT	AGTATGAGG	TTGGCCACTC	CTCTCTGCG	C	-----	-----	-----	-----	-----	
p81	ATTAACTACA	AGGAGCCCT	AGTATGAGG	TTGGCCACTC	CTCTCTGCG	CGCTCGCTCG	CTCGCTGAGG	CGGGGCGACC	AAAGGTGCGC	CGACGCCCG	-----	
p86	ATTAACTACA	AGGAGCCCT	AGTATGAGG	TTGGCCACTC	CTCTCTGCG	CGCTCGCTCG	CTCGCTGAGG	CGGGGCGACC	AAAGGTGCGC	CGACGCCCG	-----	
p87	ATTGCTACA	AGGAGCCCT	AGTATGAGG	TTGGCCACTC	CTCTCTGCG	TTGG	-----	-----	-----	-----	-----	
p88	ATTGCTACA	AGGAGCCCT	AGTATGAGG	TTGGCCACTC	CTCTCTGCG	CGCTCGCTCG	CTGg	-----	-----	-----	-----	
5'<->3' ITR	230	240	250	260	270	280	SmaI	290	300	310	320	330
p79	GGGGGCTACA	GTGAGCGAGC	GAGCGCGAG	CTGGCGGCTC	GCTCGCTGAC	TGAGGCGGCC	CGGGGCGACC	CGGGGCGTCC	GGGAGCCTTT	GCTCGGCCCG	CCTCAGCGAG	
p80	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
p81	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
p86	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
p87	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
p88	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
5'<->3' ITR	340	350	360	370	380	390	400	410	420	430	SphI	440
p79	CGAGCGAGCG	CGCAGAGAGG	GAGTGCCAA	CTCCATCACT	AGGGTTCTCT	TGTAGTTAAT	GATTAGCCCG	CCATGCTACT	TATCTACAGC	TTGCATGCAAT	GTGAGCAAAA	
p80	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
p81	CGAGCGAGCG	CGCAGAGAGG	GAGTGCCAA	CTCCATCACT	AGGGTTCTCT	TGTAGTTAAT	GATTAGCCCG	CCATGCTACT	TATCTACAGC	TTGCATGCAAT	GTGAGCAAAA	
p86	CGAGCGAGCG	CGCAGAGAGG	GAGTGCCAA	CTCCATCACT	AGGGTTCTCT	TGTAGTTAAT	GATTAGCCCG	CCATGCTACT	TATCTACAGC	TTGCATGCAAT	GTGAGCAAAA	
p87	CGAGCGAGCG	CGCAGAGAGG	GAGTGCCAA	CTCCATCACT	AGGGTTCTCT	TGTAGTTAAT	GATTAGCCCG	CCATGCTACT	TATCTACAGC	TTGCATGCAAT	GTGAGCAAAA	
p88	CGAGCGAGCG	CGCAGAGAGG	GAGTGCCAA	CTCCATCACT	AGGGTTCTCT	TGTAGTTAAT	GATTAGCCCG	CCATGCTACT	TATCTACAGC	TTGCATGCAAT	GTGAGCAAAA	
5'<->3' ITR	450	460	470	480	490	500	510	520	530	540	550	
p79	GGCCAGCAAA	AGGCCAGGAA	CCGTAAAAG	GCCTGCTG	TGGCGTTTCT	CCATAGGCTC	CGCC	-----	-----	-----	-----	
p80	GGCCAGCAAA	AGGCCAGGAA	CCGTAAAAG	GCCTGCTG	TGGCGTTTCT	CCATAGGCTC	CGCC	-----	-----	-----	-----	
p81	GGCCAGCAAA	AGGCCAGGAA	CCGTAAAAG	GCCTGCTG	TGGCGTTTCT	CCATAGGCTC	CGCC	-----	-----	-----	-----	
p86	GGCCAGCAAA	AGGCCAGGAA	CCGTAAAAG	GCCTGCTG	TGGCGTTTCT	CCATAGGCTC	CGCC	-----	-----	-----	-----	
p87	GGCCAGCAAA	AGGCCAGGAA	CCGTAAAAG	GCCTGCTG	TGGCGTTTCT	CCATAGGCTC	CGCC	-----	-----	-----	-----	
p88	GGCCAGCAAA	AGGCCAGGAA	CCGTAAAAG	GCCTGCTG	TGGCGTTTCT	CCATAGGCTC	CGCC	-----	-----	-----	-----	

FIG. 2C

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TITLE: AAV-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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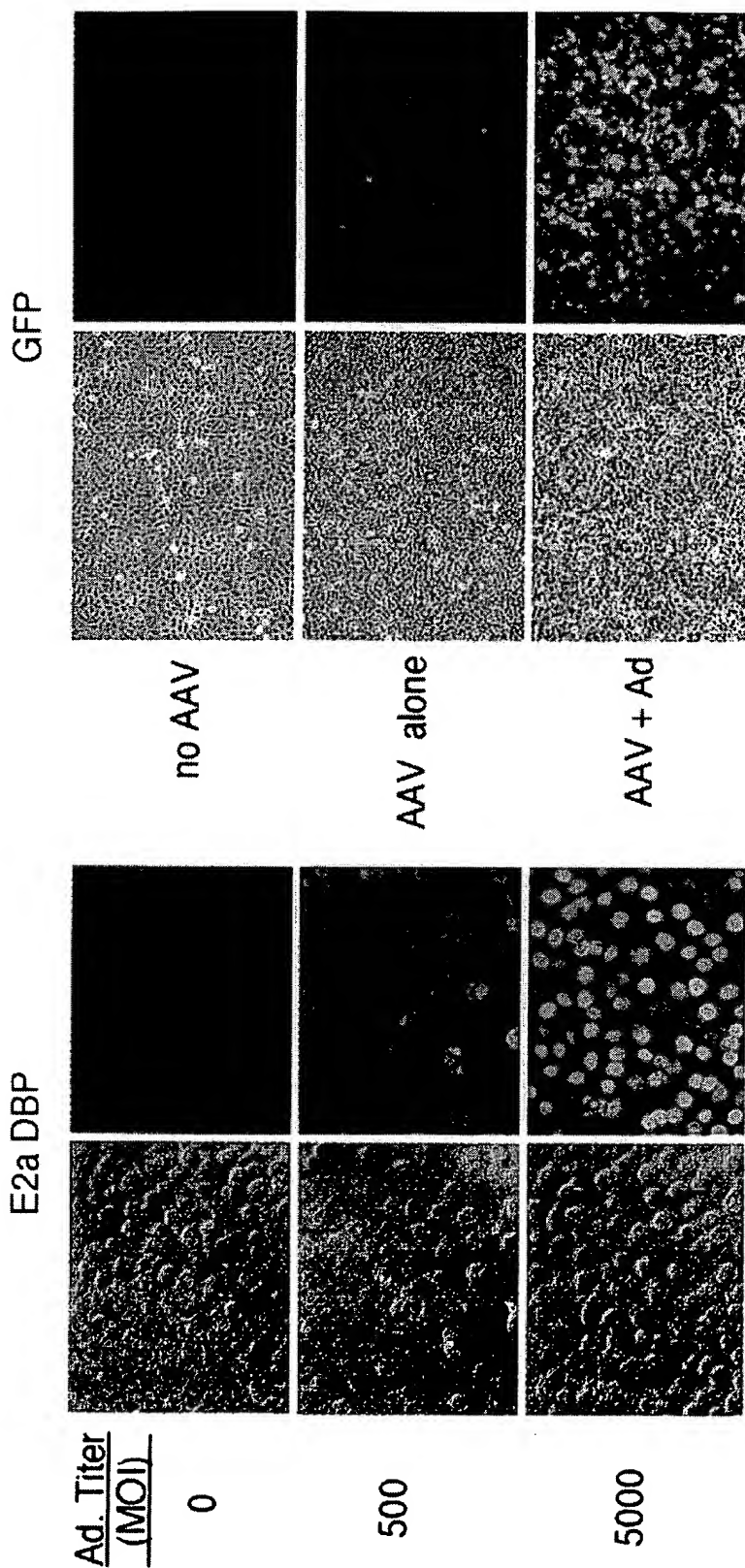


FIG. 3B

FIG. 3A



TITLE: AAV-ASSOCIATED VIRUS VECTORS AND USES THEREOF
 INVENTORS NAME: John F. Engelhardt et al.
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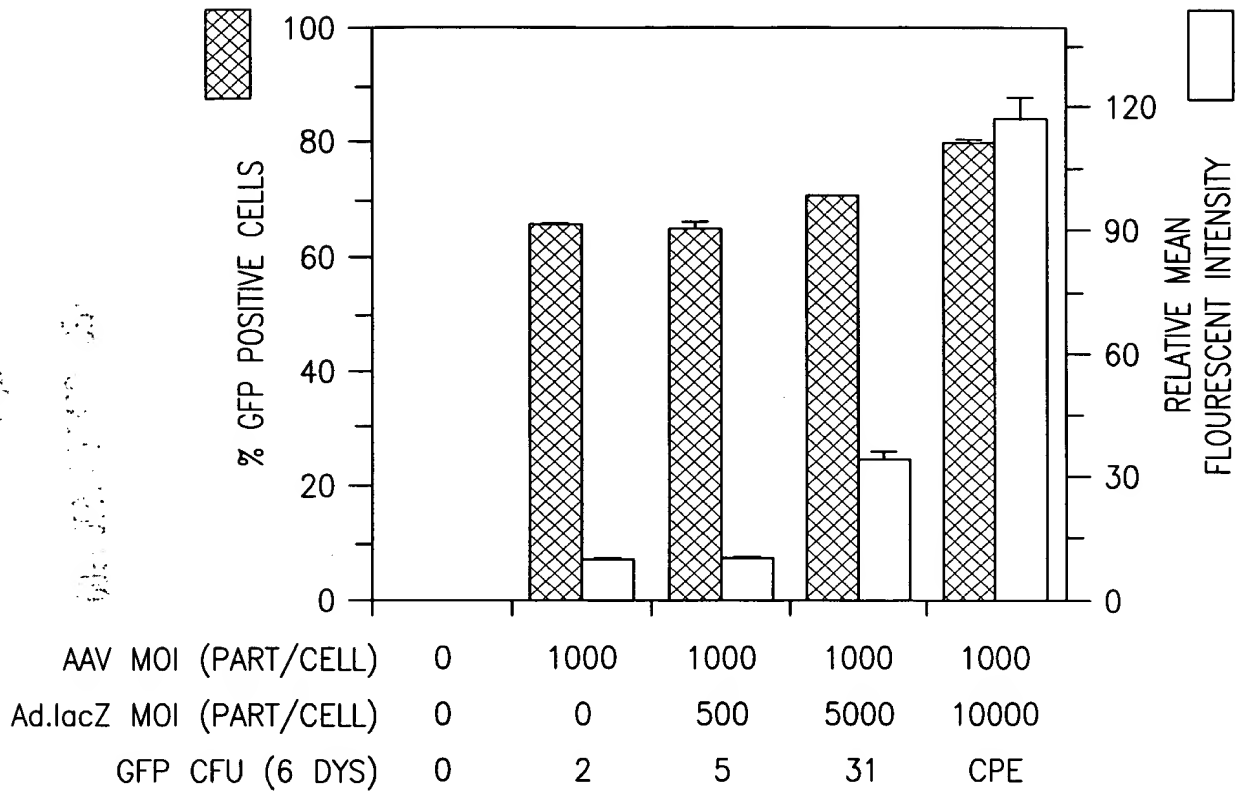


FIG. 3C

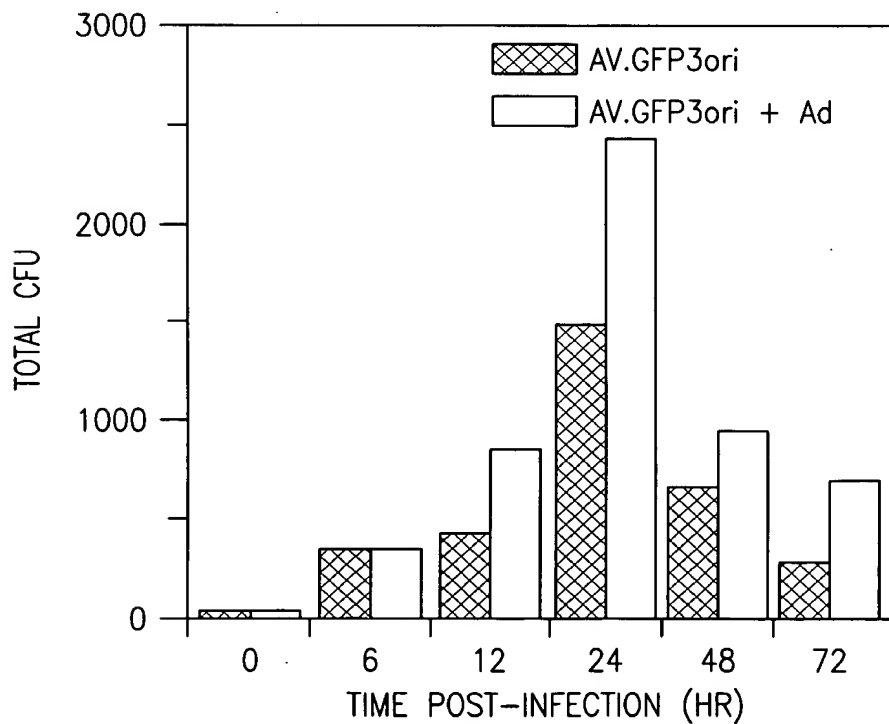


FIG. 3D



TITLE: ADENOVIRUS-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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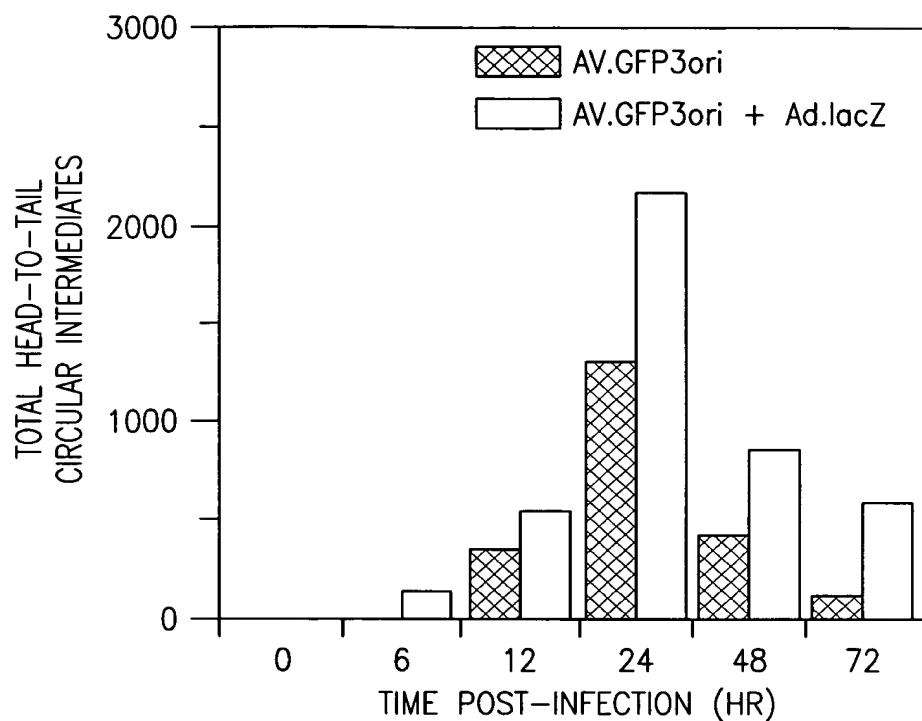


FIG. 3E

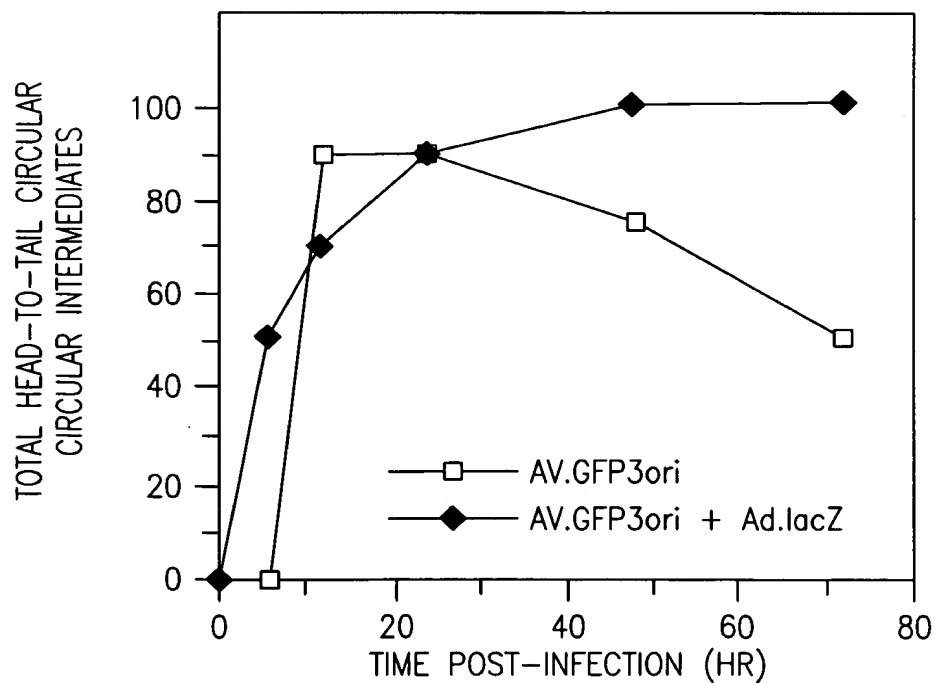


FIG. 3F



TITLE: A NO-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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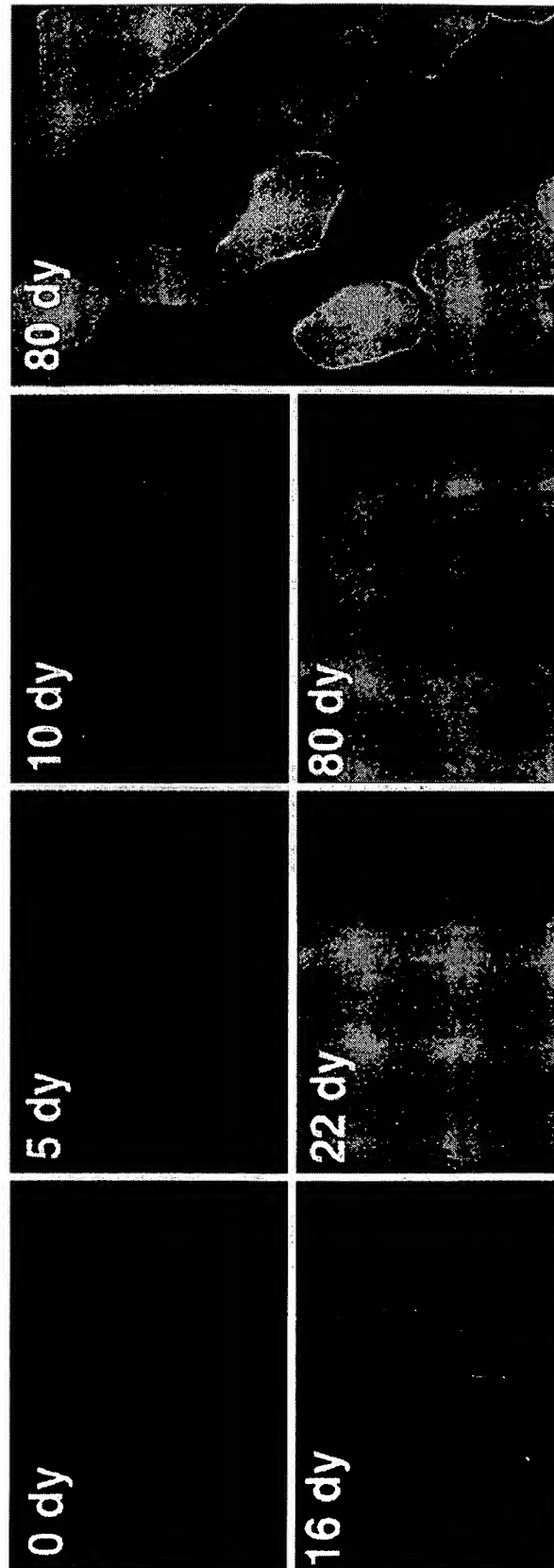


FIG. 4A



TITLE: A NO-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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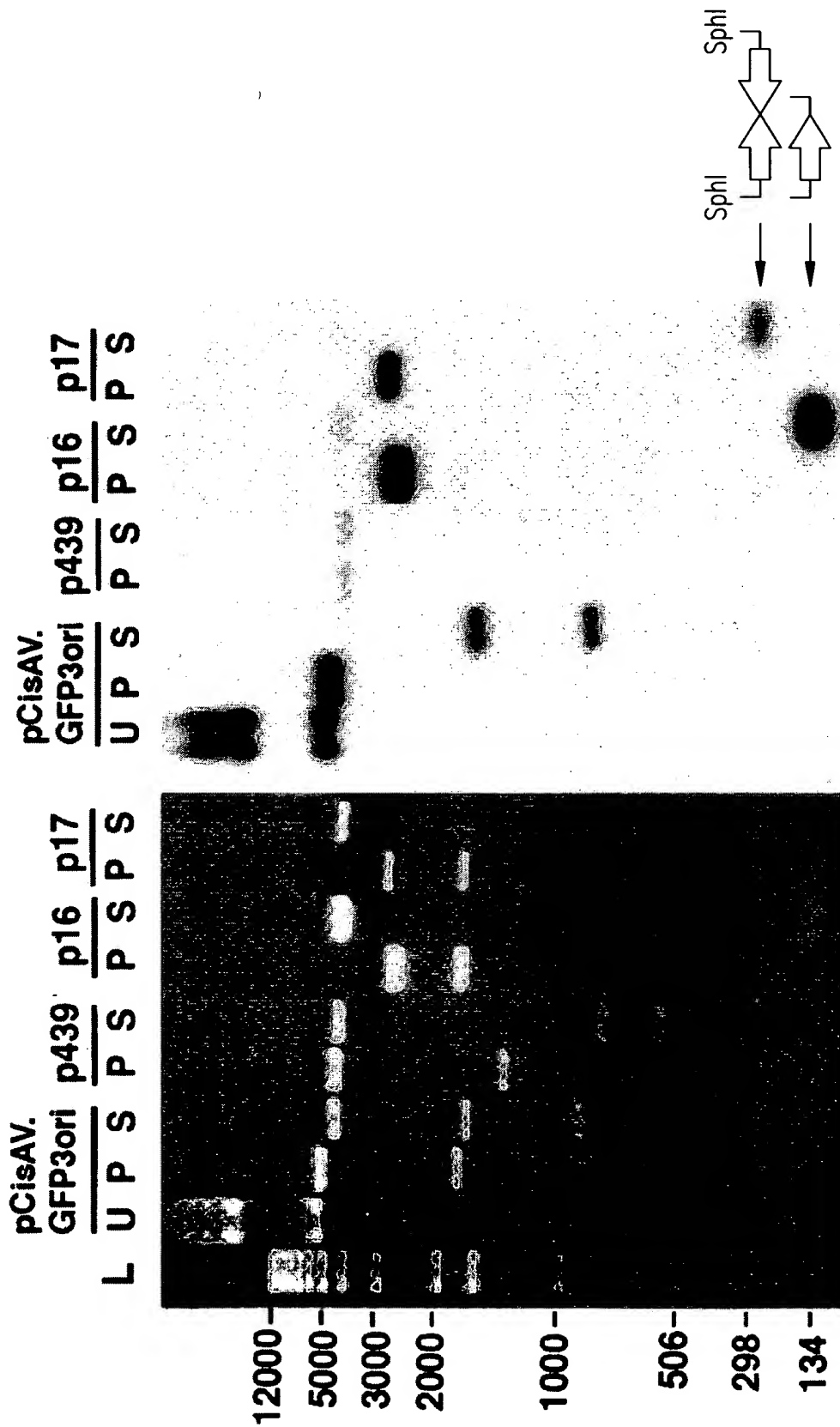


FIG. 4B



TITLE: A NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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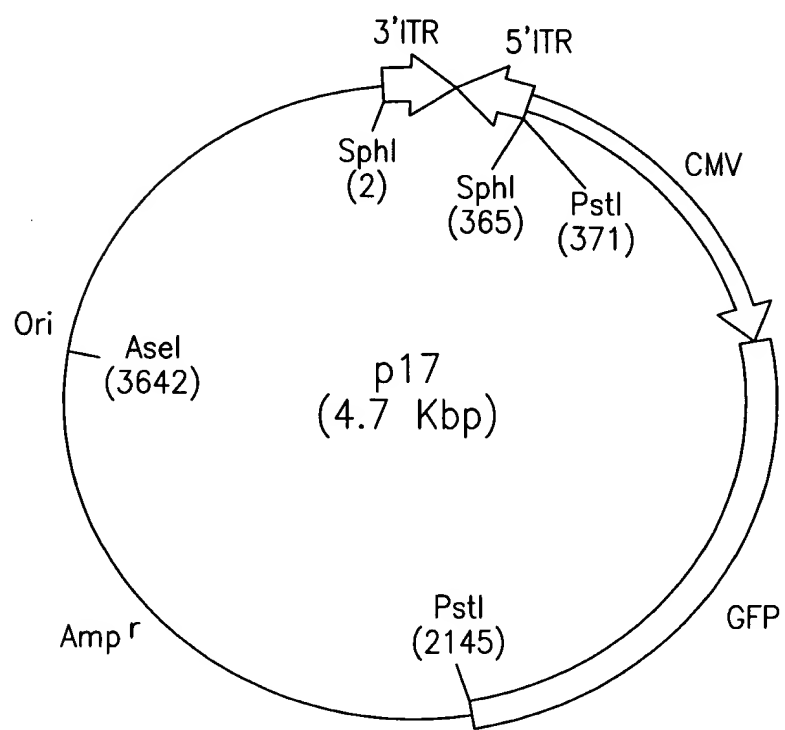


FIG. 4C

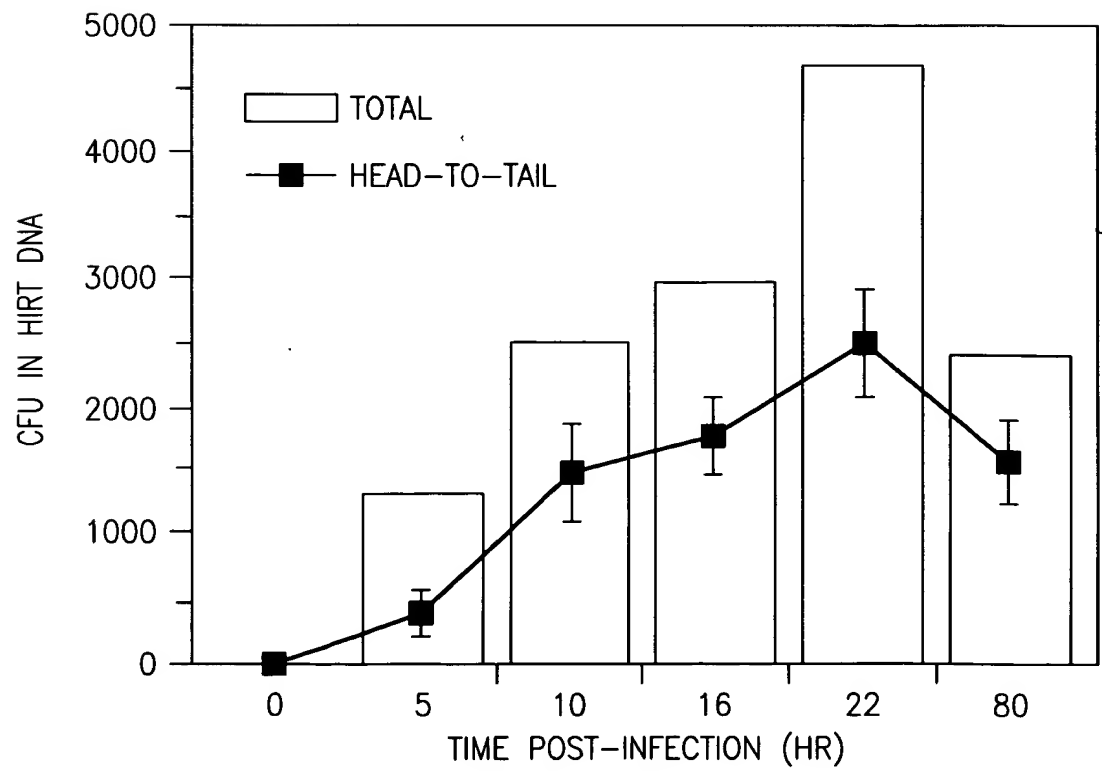


FIG. 5A



TITLE: A...O-ASSOCIATED VIRUS VECTORS AND USE...HEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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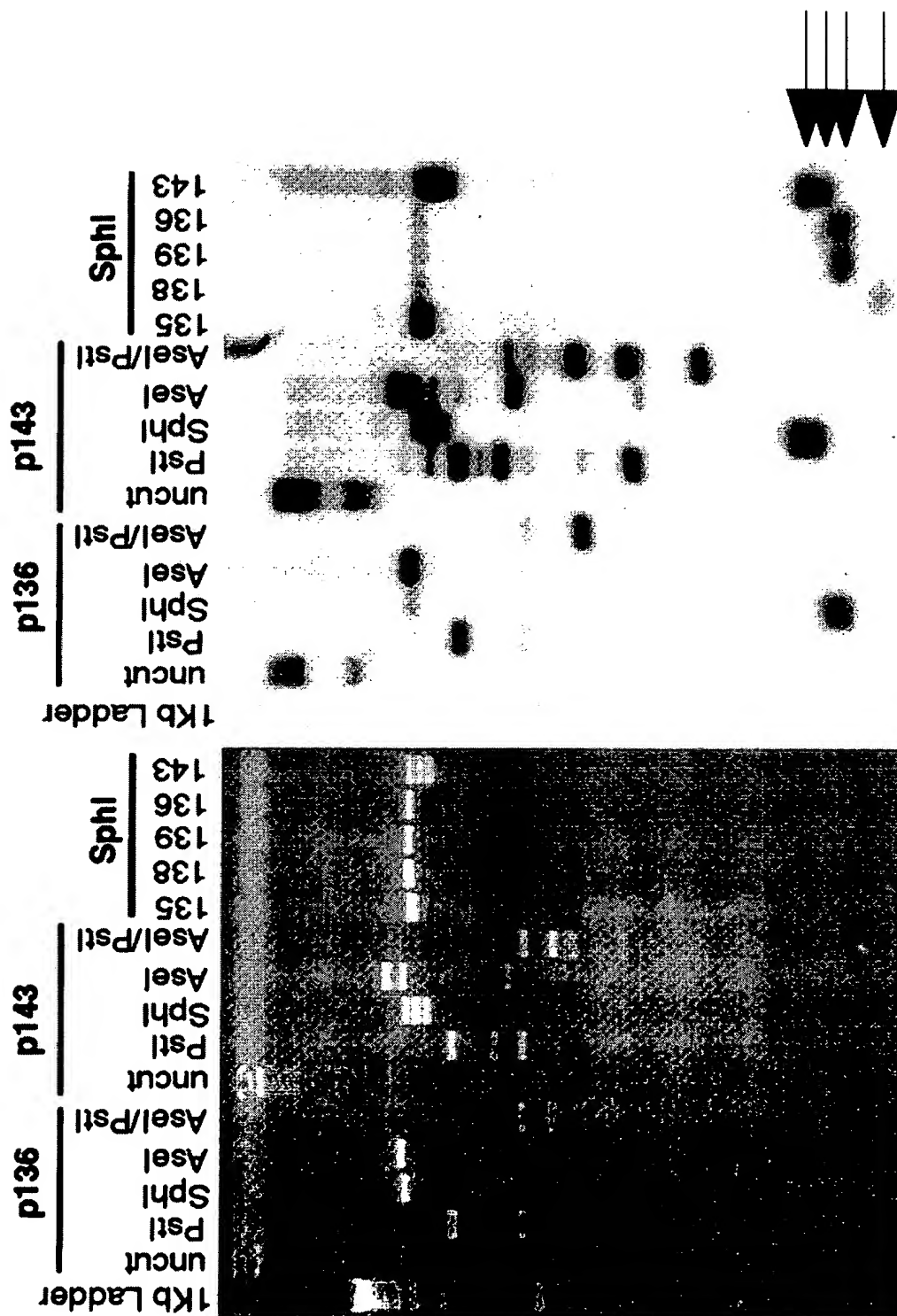


FIG. 5B



TITLE: A...O-ASSOCIATED VIRUS VECTORS AND USE...HEREOF
INVENTORS NAME: John F. Engelhardt et al.
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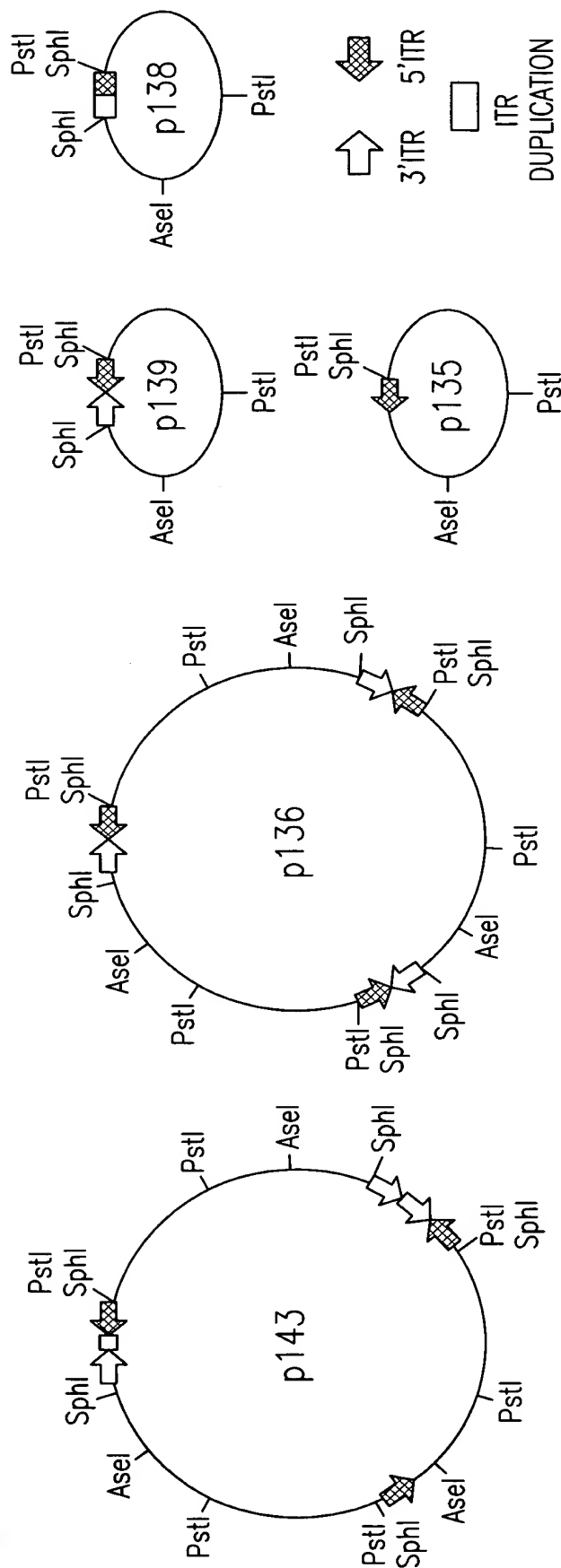


FIG. 5C



TITLE: A DNA-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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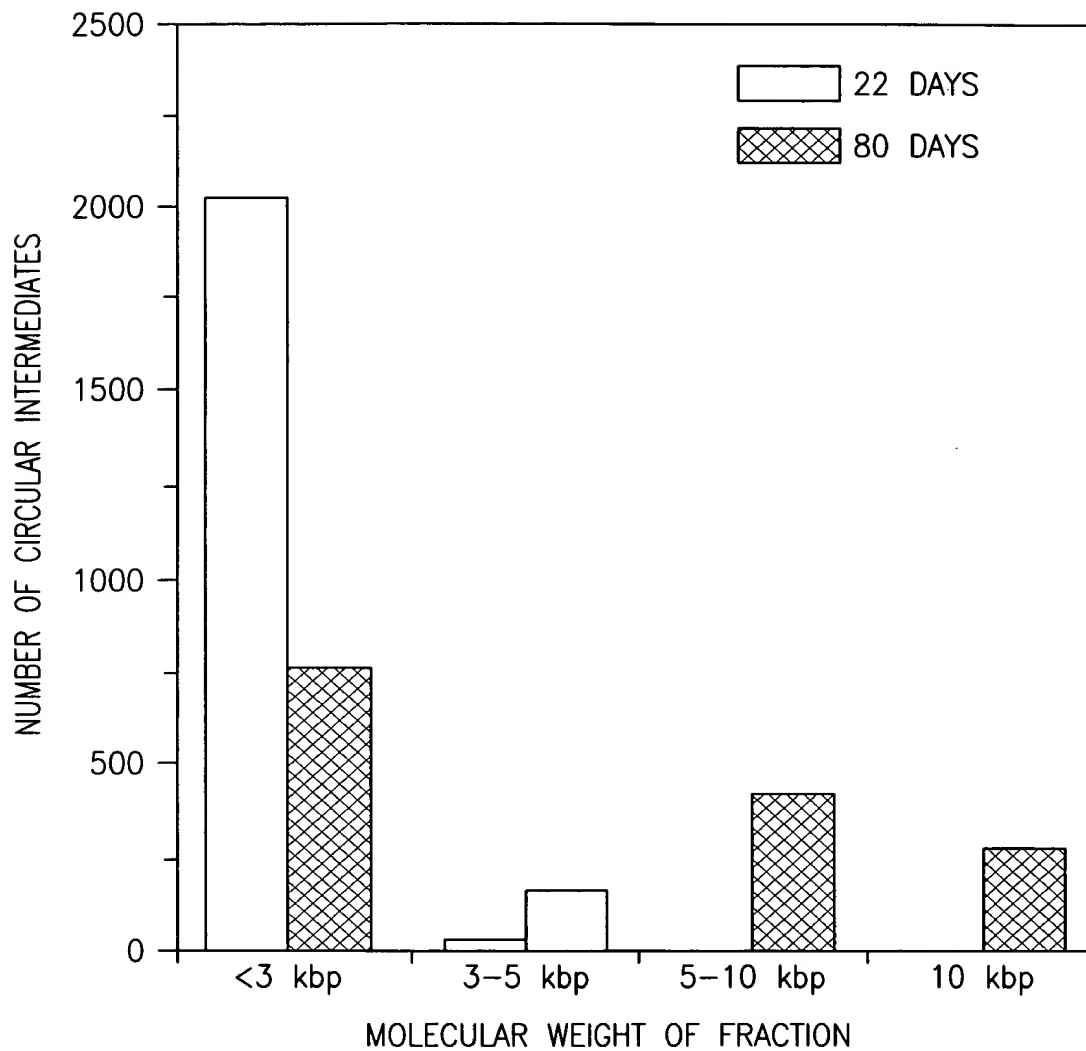


FIG. 6



TITLE: NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
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p81



p87



pCMVGFP



FIG. 7A



TITLE: GENO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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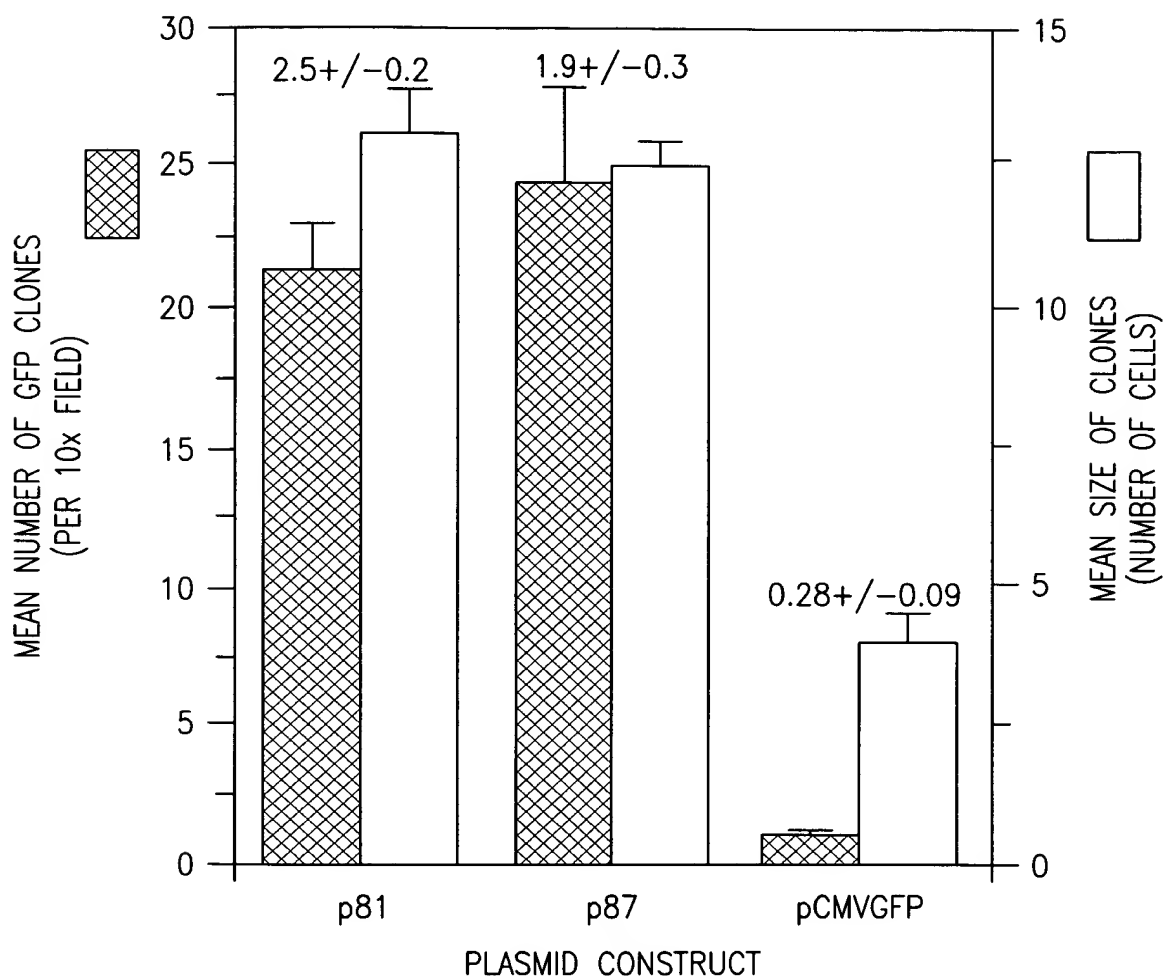


FIG. 7B



TITLE: NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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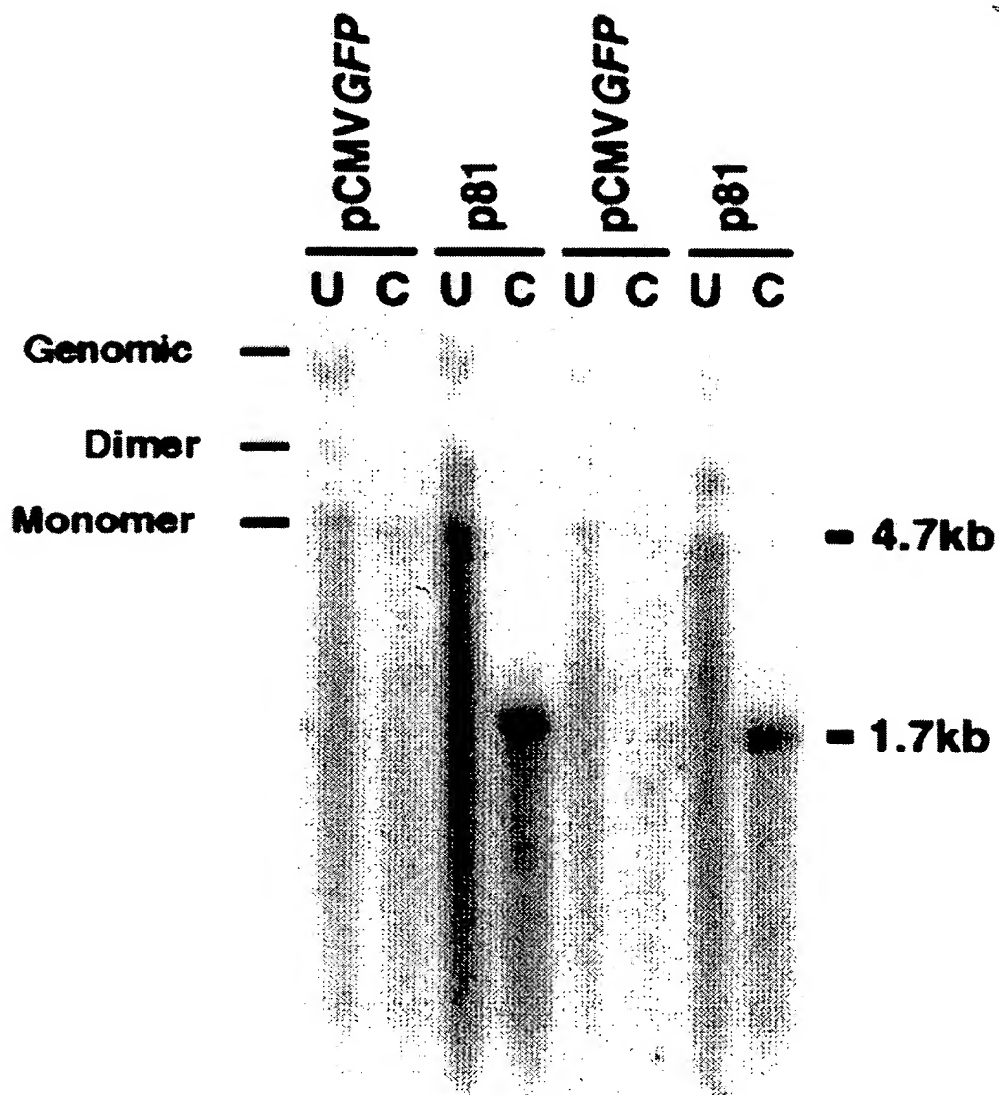


FIG. 7C



TITLE: NO-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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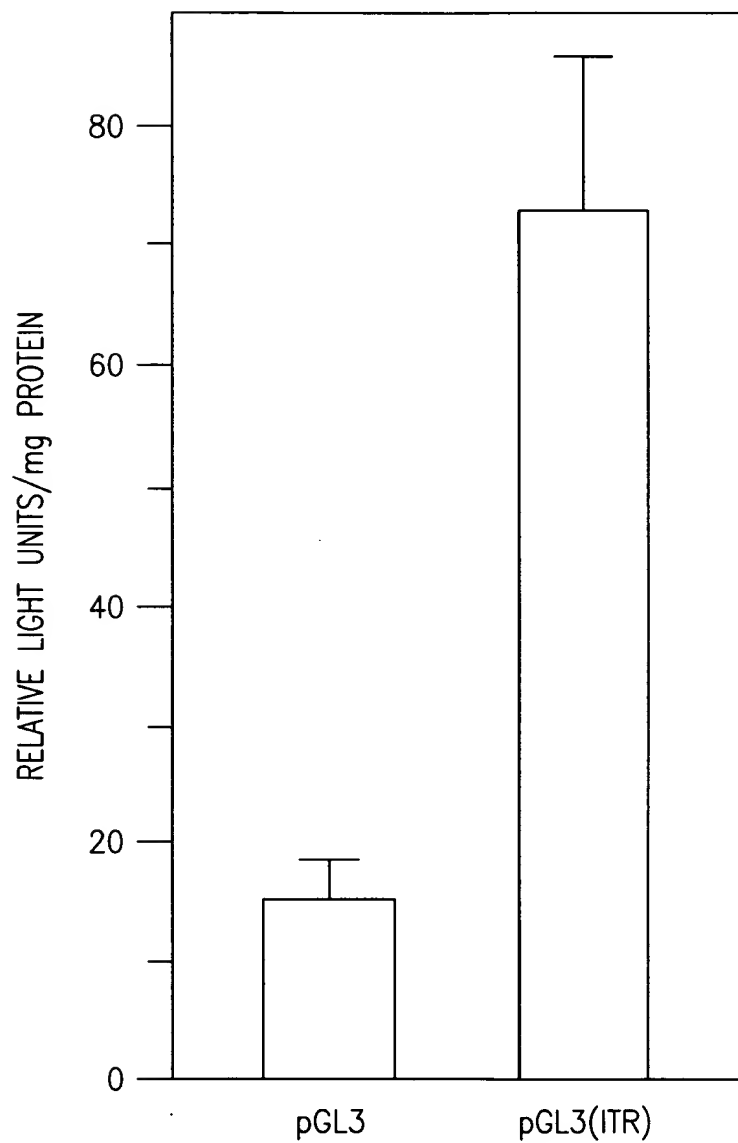


FIG. 7D



TITLE: NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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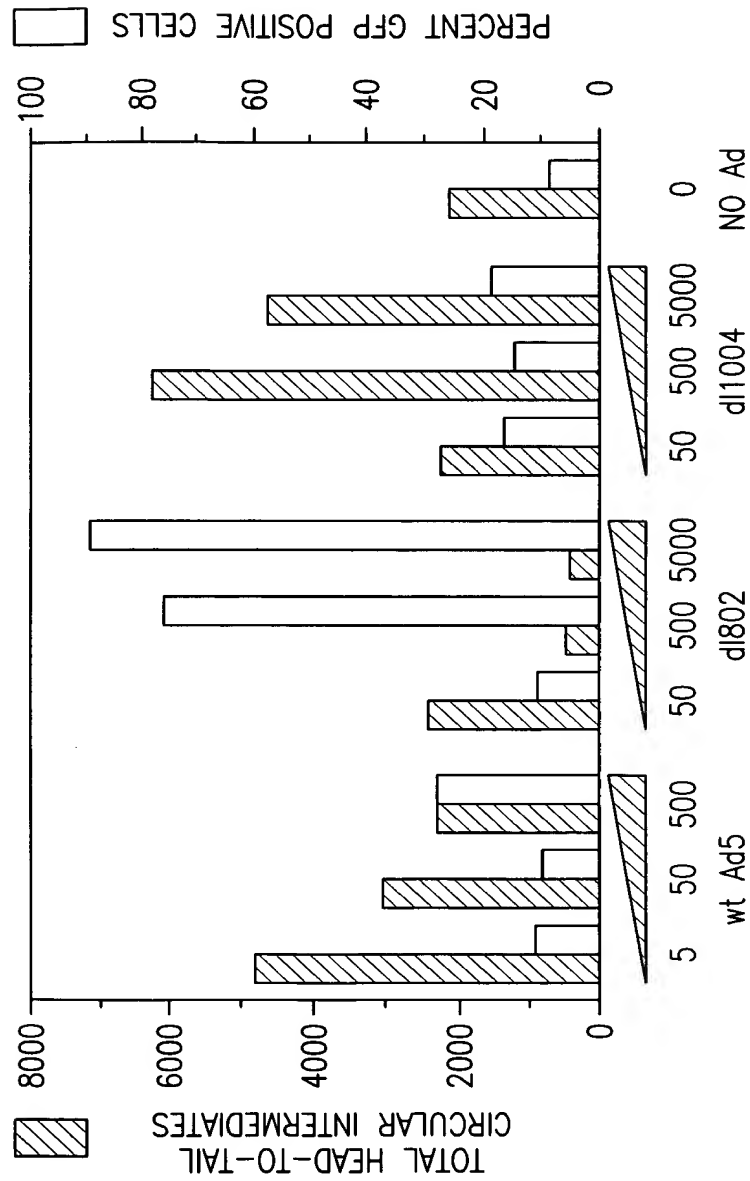


FIG. 8A



TITLE: NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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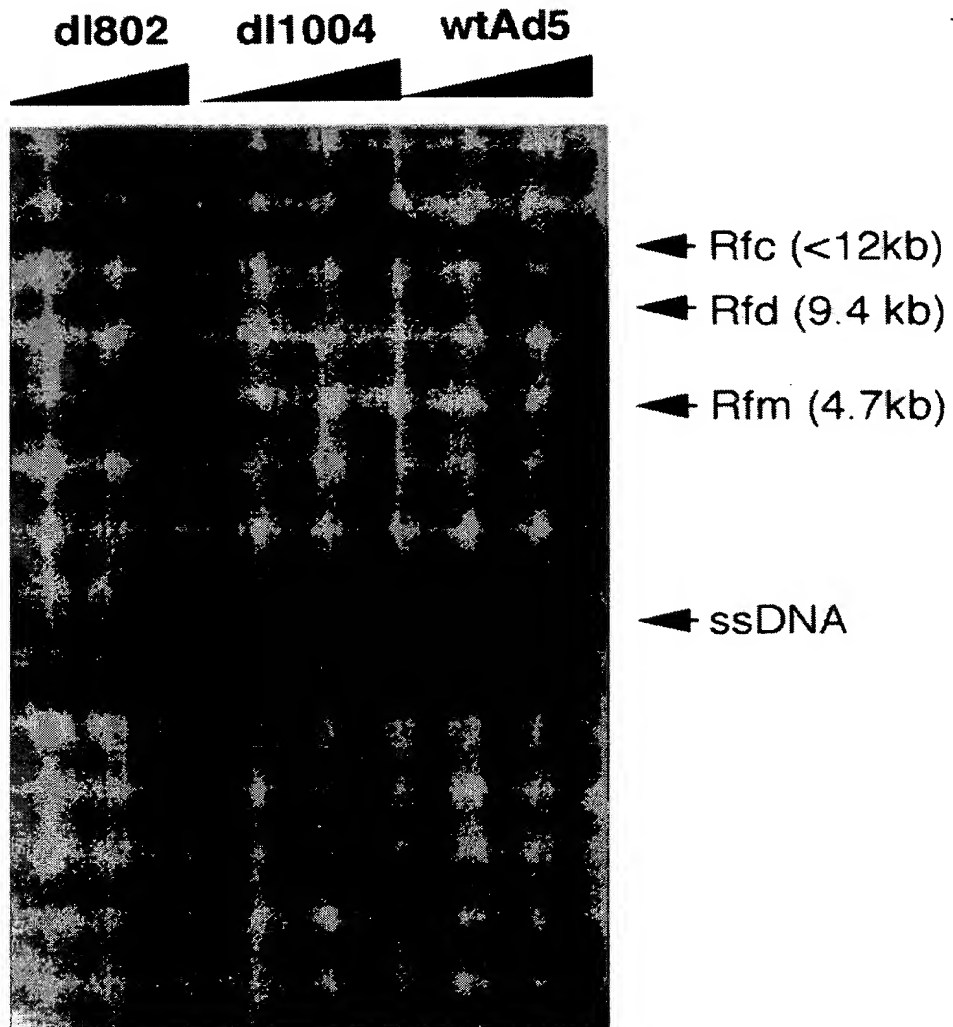


FIG. 8B



TITLE: NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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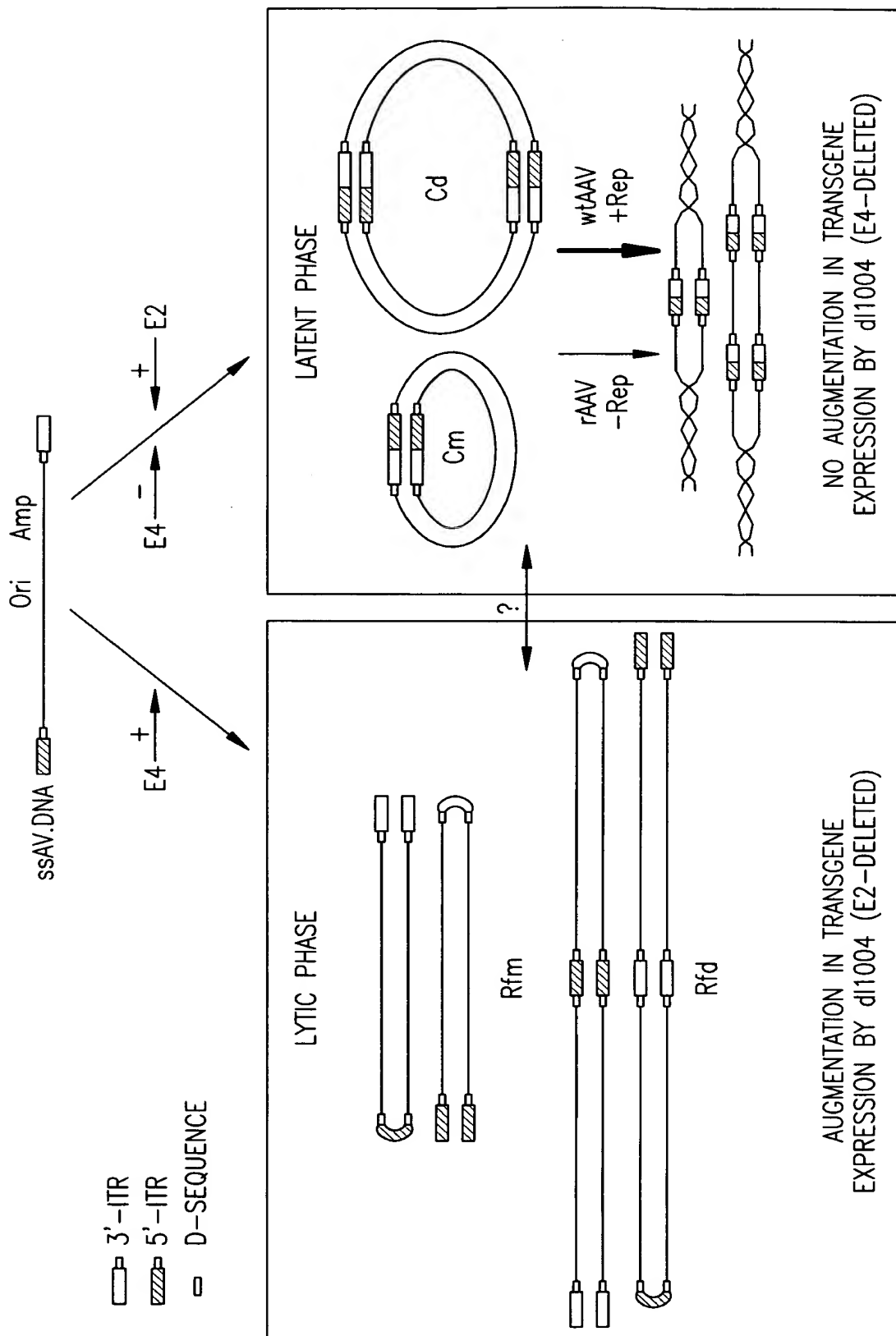


FIG. 9



TITLE: NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
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10	20	30	40	50	60
GCATGCAAGC	TGTAGATAAG	TAGCATGGCG	GGTTAATCAT	TAACTACAAG	GAACCCCTAG
CGTACGTTTCG	ACATCTATTTC	ATCGTACCGC	CCAATTAGTA	ATTGATGTTC	CTTGCGGGATC
70	80	90	100	110	120
TGATGGAGTT	GGCCACTCCC	TCTCTGCGCG	CTCGCTCGCT	CACTGAGGCC	GGGCGGCCAA
ACTACCTCAA	CCGGTGAGGG	AGAGACGCGC	GAGCGAGCGA	GTGACTCCGG	CCCGCCGGTT
130	140	150	160	170	180
AGGTCGCCCCG	ACGCCCCGGGC	TTTGCCCCGGG	CGGCCTCAGT	GAGCGAGCGA	GCGCGCAGAG
TCCAGCGGGC	TGCGGGCCCCG	AAACGGGGCCC	GCCGGAGTCA	CTCGCTCGCT	CGCGCGTCTC
190	200	210	220	230	240
AGGGAGTGGC	CAACTCCATC	ACTAGGGGTT	CCTTGTAGTT	AATGATTAAAC	CCGCCATGCT
TCCCTCACCG	GTTGAGGTAG	TGATCCCCAA	GGAACATCAA	TTACTAATTG	GGCGGTACGA
250	260	270	280		
ACTTATCTAC	CGATGAATTTC	GAGCTTGCCAT	GC.....		
TGAATAGATG	GCTACTTAAG	CTCGAACGTA	CG.....		

FIG. 10A

10	20	30	40	50	60
GCATGCAAGC	TGTAGATAAG	TAGCATGGCG	GGTTAATCAT	TAACTACAAG	GAACCCCTAG
CGTACGTTTCG	ACATCTATTTC	ATCGTACCGC	CCAATTAGTA	ATTGATGTTC	CTTGCGGGATC
70	80	90	100	110	120
TGATGGAGTT	GGCCACTCCC	TCTCTGCGCG	CTCGCTCGCT	CACTGAGGCC	GGGCGCGCGC
ACTACCTCAA	CCGGTGAGGG	AGAGACGCGC	GAGCGAGCGA	GTGACTCCGG	CCCGCGCGCG
130	140	150	160	170	180
TCGCTCGCTC	ACTGAGGCCG	GGCGACCAA	GGTCGCCCGA	GCCCCGGGCTT	TGCCCCGGGCG
AGCGAGCGAG	TGACTCCGGC	CCGCTGGTTT	CCAGCGGGCT	CGGGCCCCGAA	ACGGGCCCCG
190	200	210	220	230	240
GCCTCAGTGA	GCGAGCGCGC	GCGCAGAGAG	GGAGTGGCCA	ACTCCATCAC	TAGGGGTTCC
CGGAGTCACT	CGCTCGCGCG	CGCGTCTCTC	CCTCACCGGT	TGAGGTAGTG	ATCCCCAAGG
250	260	270	280	290	300
TTGTAGTTAA	TGATTAACCC	GCCATGCTAC	TTATCTACCG	ATGAATTCTGA	GCTTGCCATGC
AACATCAATT	ACTAATTGGG	CGGTACGATG	AATAGATGGC	TACTTAAGCT	CGAACGTACG

FIG. 10B



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10	20	30	40	50	60
GCATGCAAGC	TGTAGATAAG	TAGCATGGCG	GGTTAATCAT	TAACTACAAG	GAACCCCTAG
CGTACGTTTC	ACATCTATTC	ATCGTACCGC	CCAATTAGTA	ATTGATGTTC	CTTGGGGATC
70	80	90	100	110	120
TGATGGAGTT	GGCCACTCCC	TCTCTGCGCG	CTCGCTCGCT	CACTGAGGCC	GGGCGACCAA
ACTACCTCAA	CCGGTGAGGG	AGAGACGCGC	GAGCGAGCGA	GTGACTCCGG	CCCGCTGGTT
130	140	150	160	170	180
AGGTCGCCCC	ACGCCCCGGC	TTTGGTGCGC	CGGCCTCAGT	GAGCGAGCGA	GCGCGCAGAG
TCCAGCGGGC	TGCGGGCCCC	AAACCAGCGG	GCCGGAGTCA	CTCGCTCGCT	CGCGCGTCTC
190	200	210	220	230	240
AGGGAGTGGC	CAACTCCATC	ACTAGGGGTT	CCTTGTAGTT	AATGATTAAAC	CCGCCATGCT
TCCCTCACC	GTTGAGGTAG	TGATCCCCAA	GGAACATCAA	TTACTAATTG	GGCGGTACGA
250	260	270	280		
ACTTATCTAC	CGATGAATTTC	GAGCTTGCAAT	GC.....		
TGAATAGATG	GCTACTTAAG	CTCGAACGTA	CG.....		

FIG. 10C



TITLE: NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
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		10	20	30	40	50	
P81	1	GCATGCAAGC	TGTAGATAAG	TAGCATGGCG	GGTTAATCAT	TAACTACAAG	50
p79	1	GCATGCAAGC	TGTAGATAAG	TAGCATGGCG	GGTTAATCAT	TAACTACAAG	50
p1202	1	GCATGCAAGC	TGTAGATAAG	TAGCATGGCG	GGTTAATCAT	TAACTACAAG	50
		60	70	80	90	100	
P81	51	GAACCCCTAG	TGATGGAGTT	GGCCACTCCC	TCTCTGCGCG	CTCGCTCGCT	100
p79	51	GAACCCCTAG	TGATGGAGTT	GGCCACTCCC	TCTCTGCGCG	CTCGCTCGCT	100
p1202	51	GAACCCCTAG	TGATGGAGTT	GGCCACTCCC	TCTCTGCGCG	CTCGCTCGCT	100
		110	120	130	140	150	
P81	101	CACTGAGGCC	GGGCG-----	-----	-----	---GCCAAAG	150
p79	101	CACTGAGGCC	GGGCGCGCGC	TCGCTCGCTC	ACTGAGGCCG	GGCGaCcAAa	150
p1202	101	CACTGAGGCC	GGGCG-----	-----	-----	---ACCAAAG	150
		160	170	180	190	200	
P81	151	GTCGCCCGAC	GCCCGGGCTT	TGCCCGGGCG	GCCTCAGTGA	GCGAGCGAGC	200
p79	151	GgtcgCCCga	GCCCGGGCTT	TGCCCGGGCG	GCCTCAGTGA	GCGAGCGcGC	200
p1202	151	GTCGCCCGAC	GCCCGGGCTT	TGgtCGccCG	GCCTCAGTGA	GCGAGCGAGC	200
		210	220	230	240	250	
P81	201	GCGCAGAGAG	GGAGTGGCCA	ACTCCATCAC	TAGGGGTTCC	TTGTAGTTAA	250
p79	201	GCGCAGAGAG	GGAGTGGCCA	ACTCCATCAC	TAGGGGTTCC	TTGTAGTTAA	250
p1202	201	GCGCAGAGAG	GGAGTGGCCA	ACTCCATCAC	TAGGGGTTCC	TTGTAGTTAA	250
		260	270	280	290	300	
P81	251	TGATTAACCC	GCCATGCTAC	TTATCTACCG	ATGAATTCGA	GCTTG <u>GCATGC</u>	300
p79	251	TGATTAACCC	GCCATGCTAC	TTATCTACCG	ATGAATTCGA	GCTTG <u>GCATGC</u>	300
p1202	251	TGATTAACCC	GCCATGCTAC	TTATCTACCG	ATGAATTCGA	GCTTG <u>GCATGC</u>	300

FIG. 11



TITLE: NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
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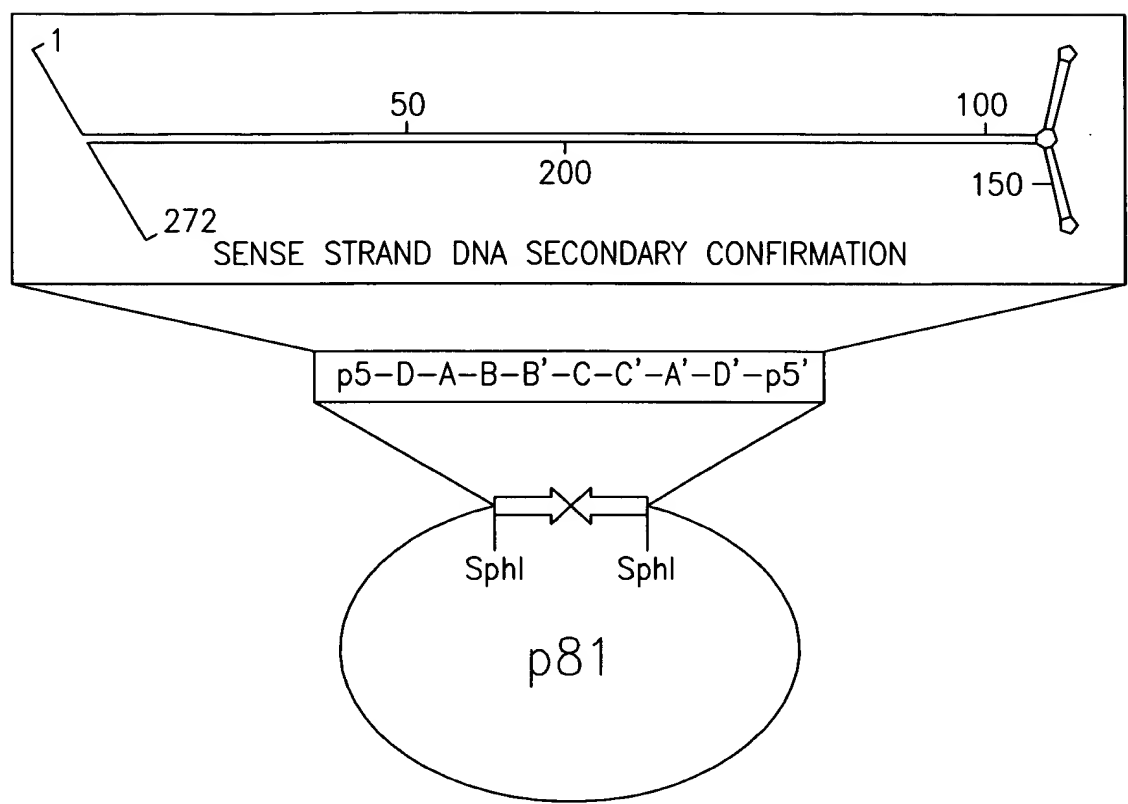


FIG. 12A



TITLE: NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
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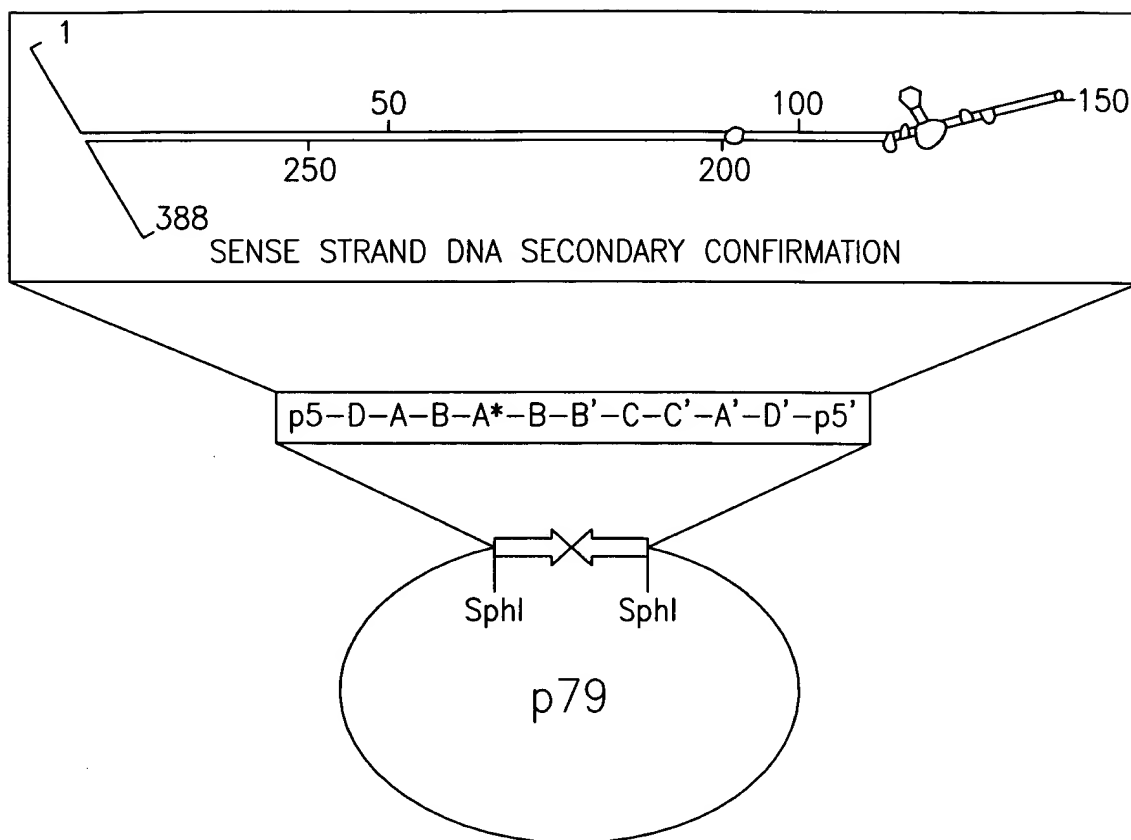


FIG. 12B



TITLE: ● INO-ASSOCIATED VIRUS VECTORS AND US ● THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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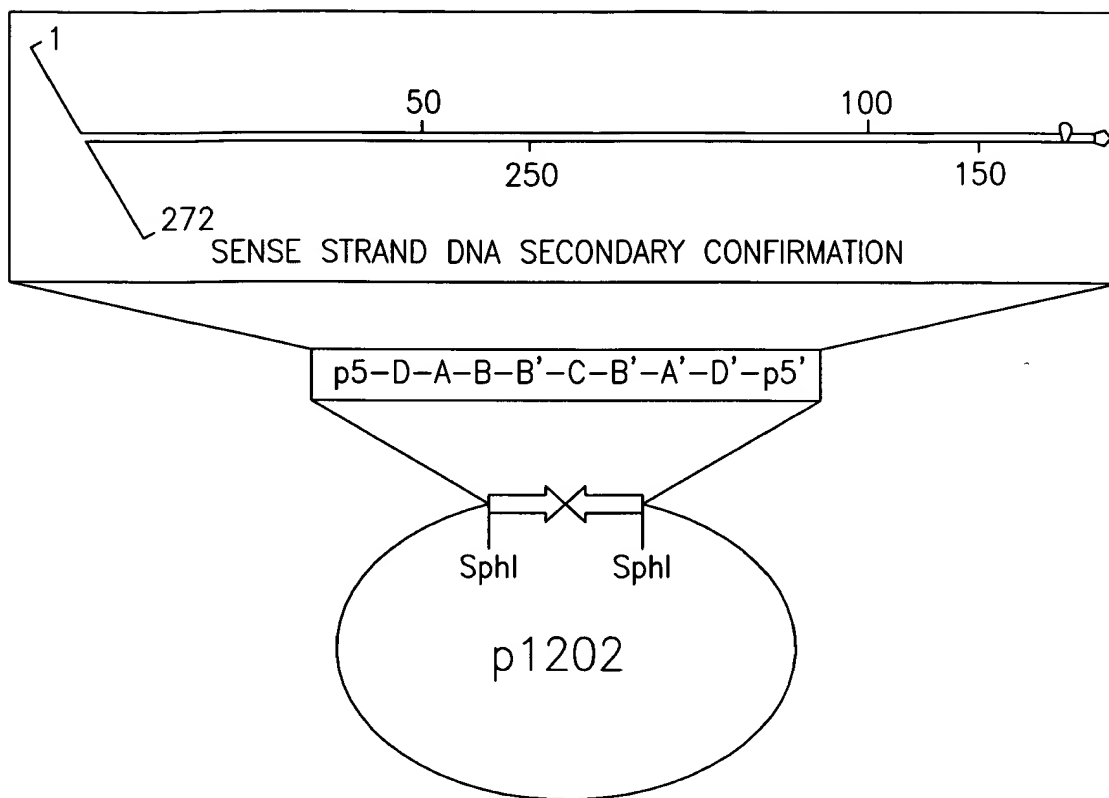


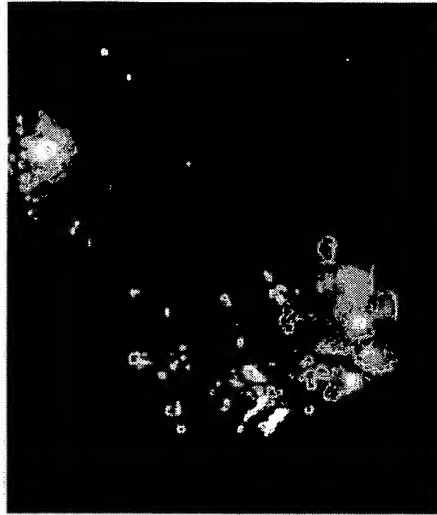
FIG. 12C



TITLE: NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
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pCisAV.GFPori



p81



Bright Field



FIG. 13



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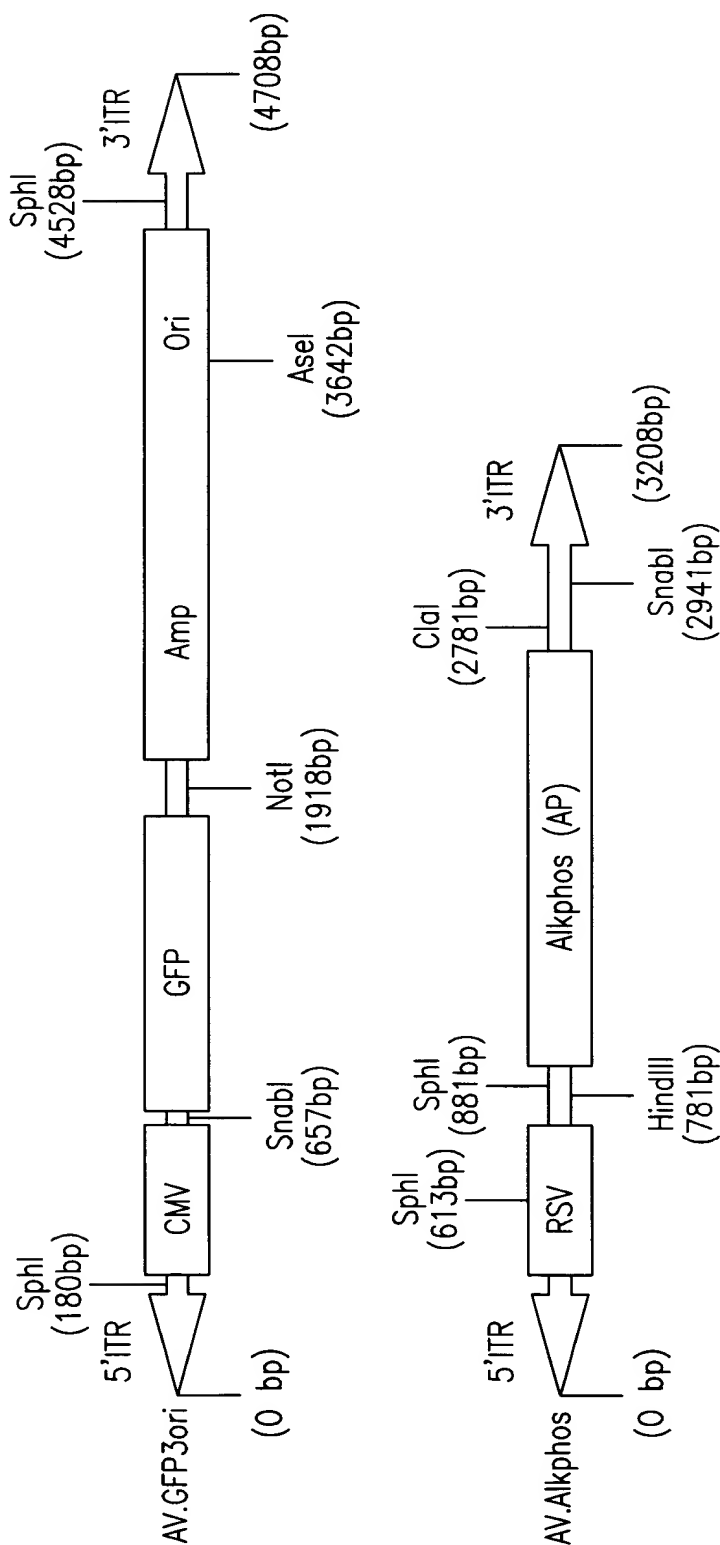


FIG. 14A



TITLE: NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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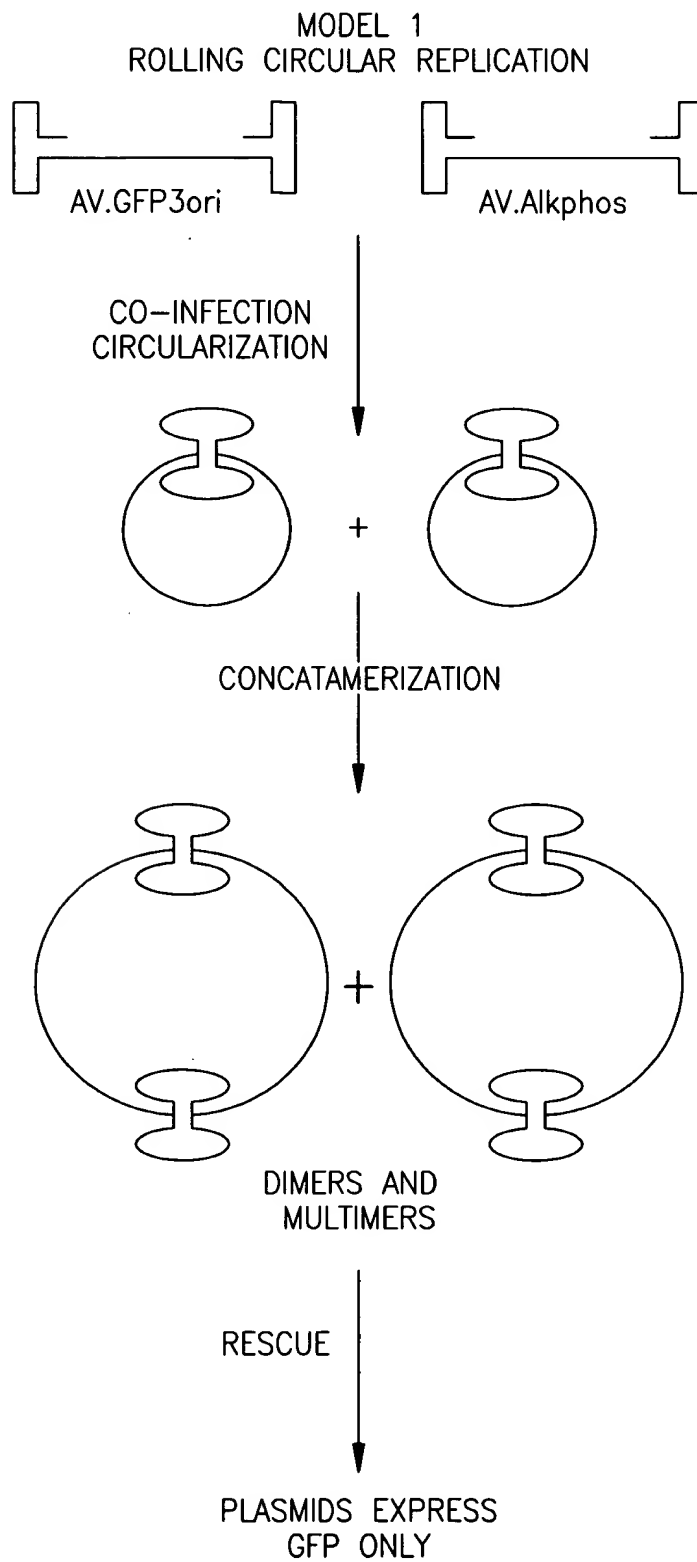


FIG. 14B



TITLE: A NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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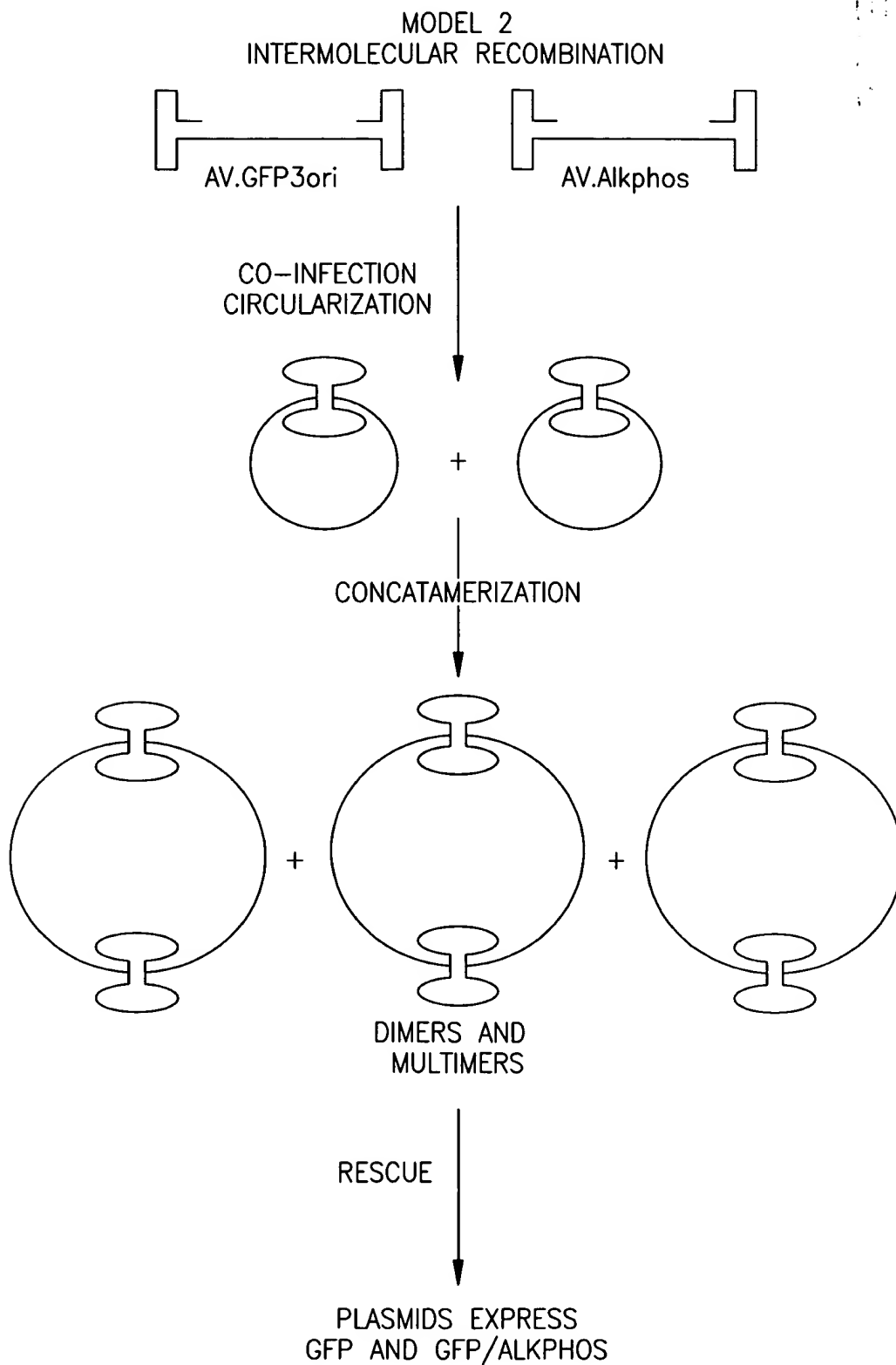


FIG. 14C



TITLE: A NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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FIG. 15A

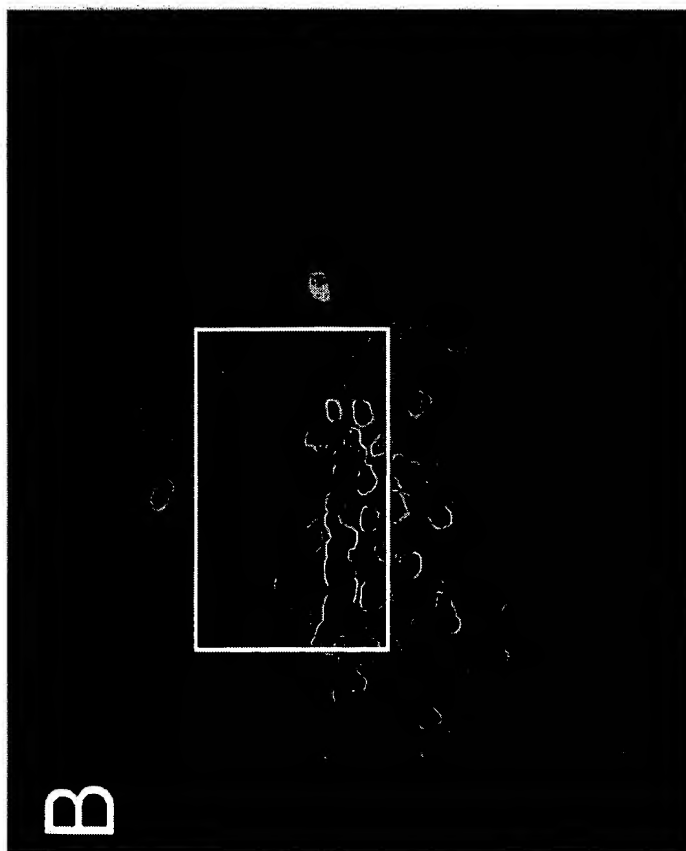


TITLE: A NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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B'



B

FIG. 15B



TITLE: A NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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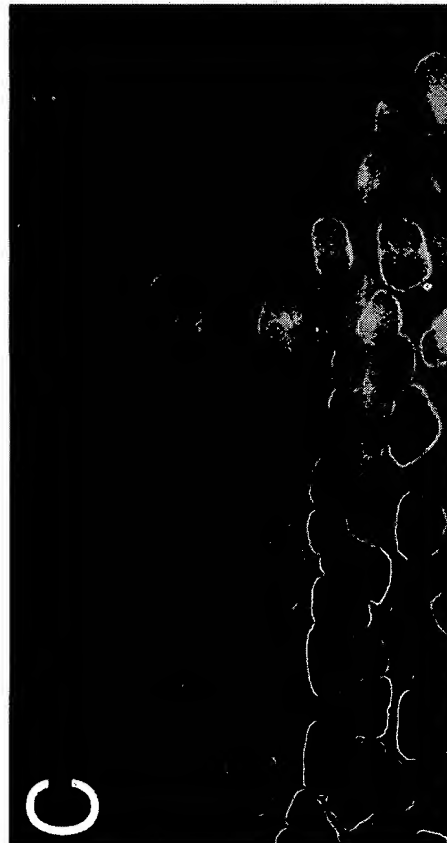


FIG. 15C



TITLE: A NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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FIG. 15D



TITLE: A NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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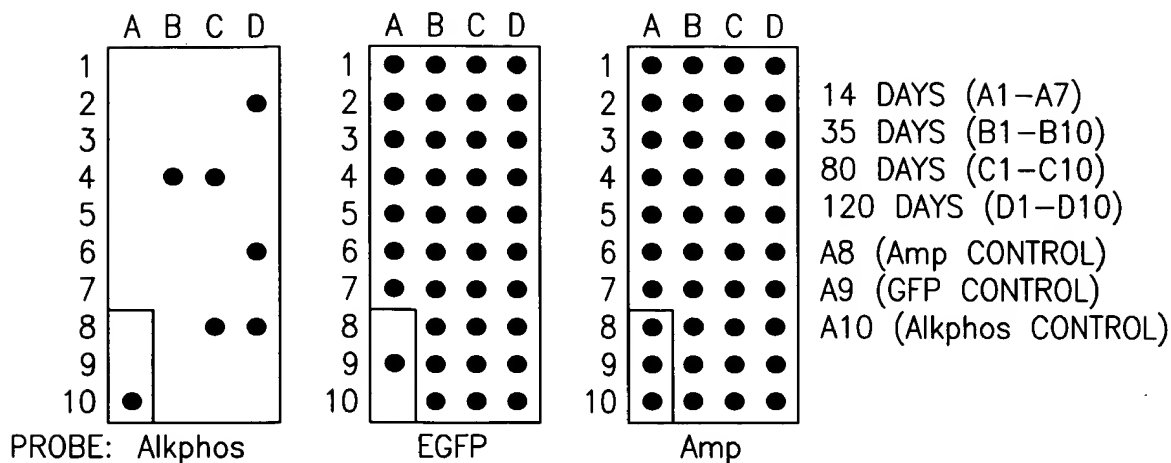


FIG. 16A

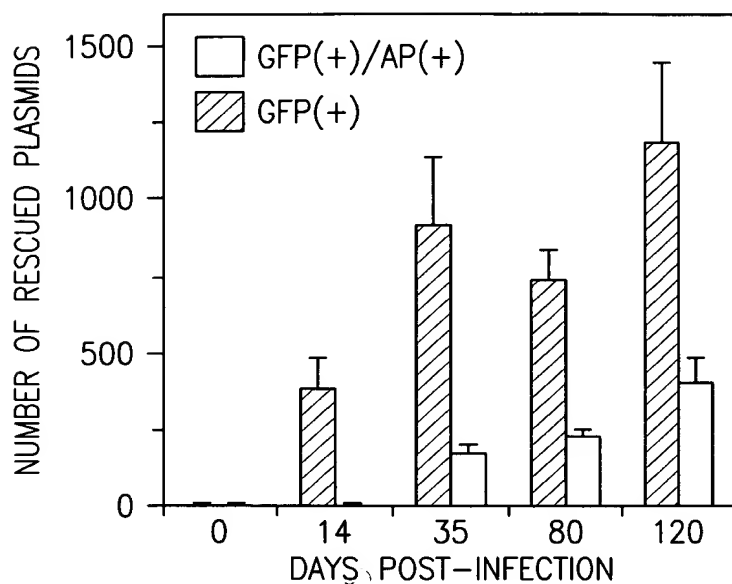


FIG. 16B

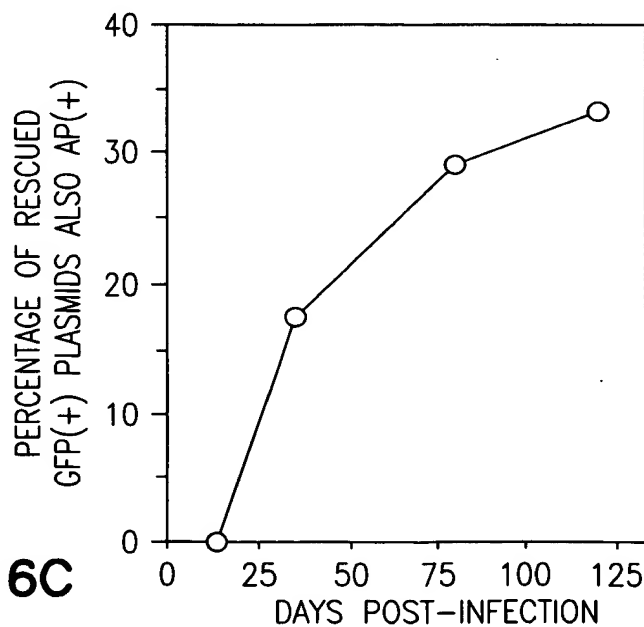
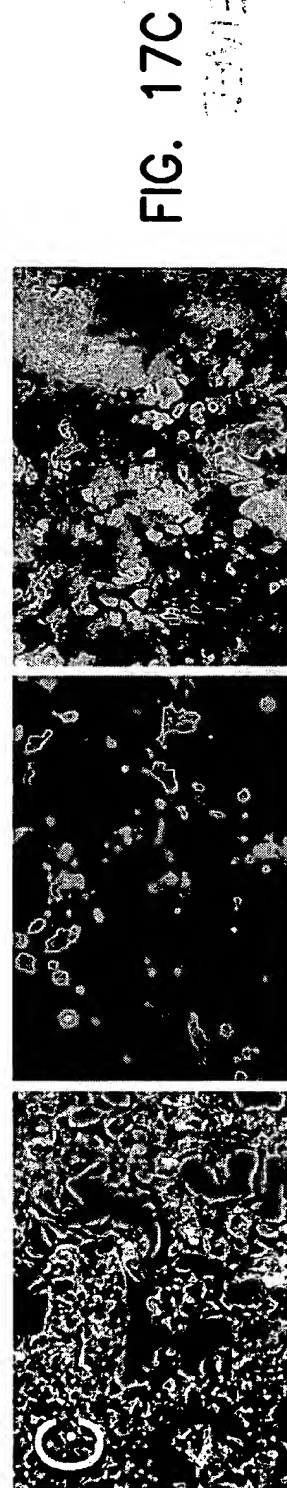
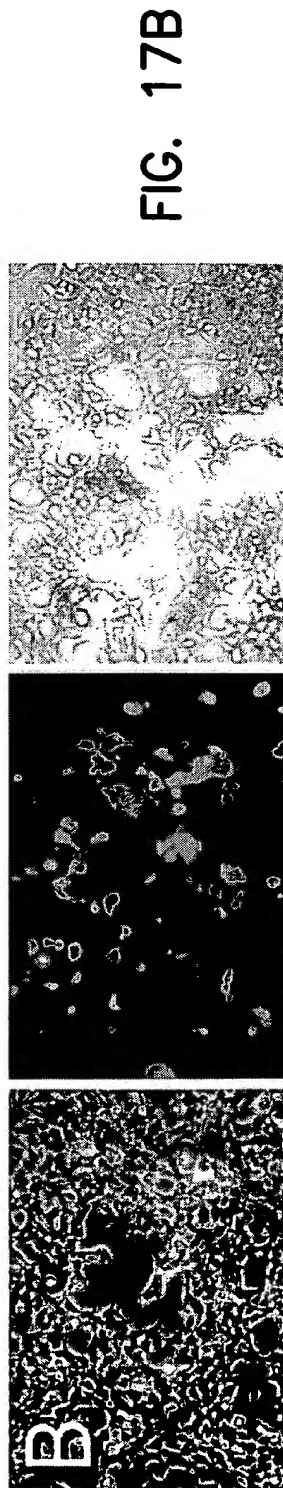
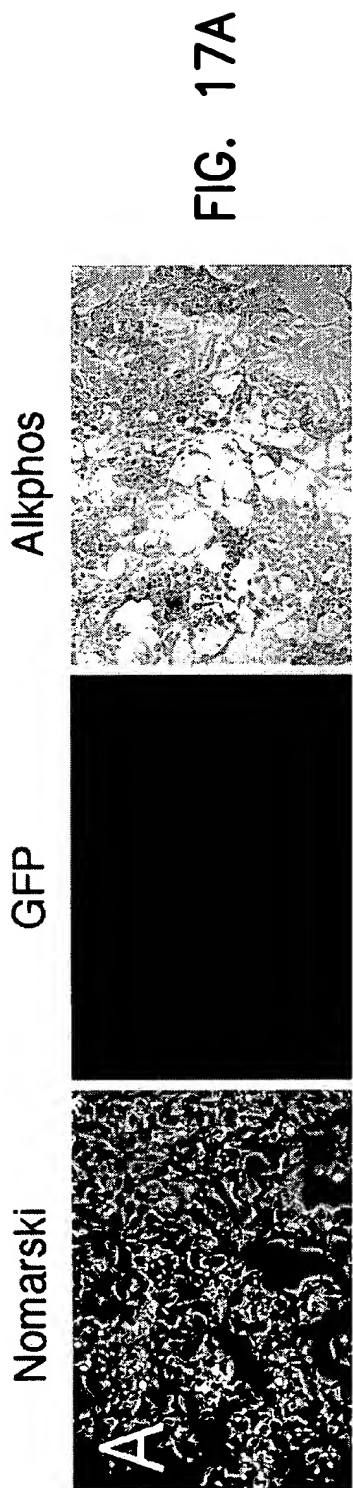


FIG. 16C



TITLE: A NO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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TITLE: A NO-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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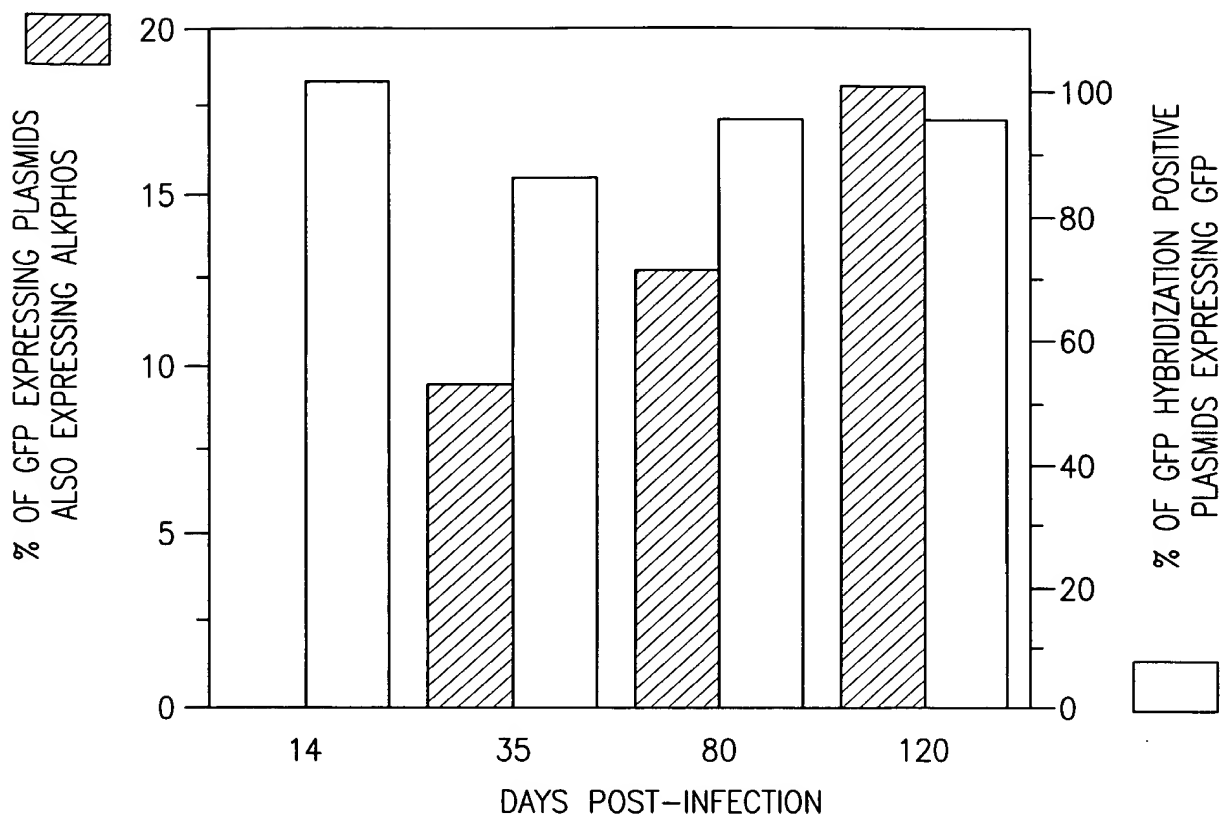


FIG. 17D



TITLE: A ●●O-ASSOCIATED VIRUS VECTORS AND USE ●●HEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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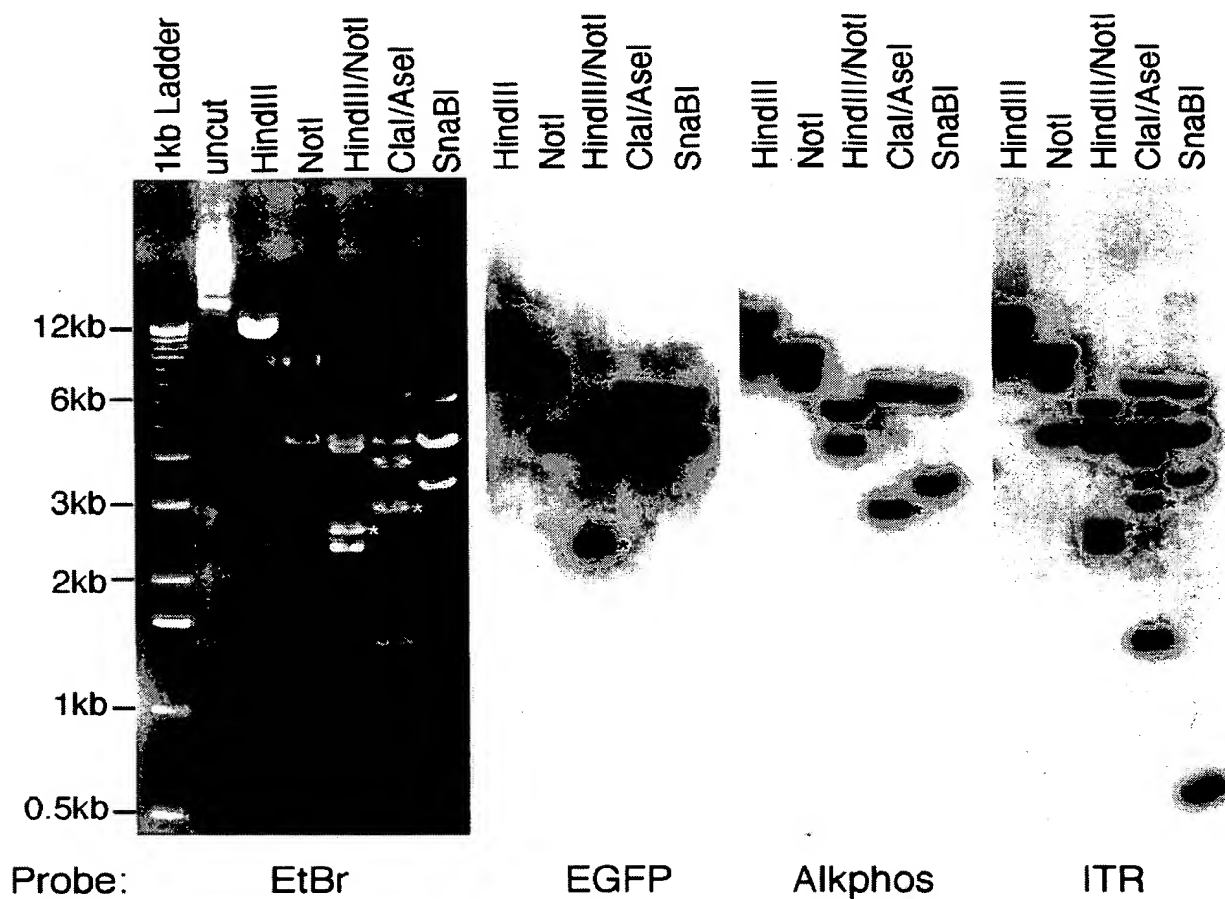


FIG. 18A



TITLE: HEPATOASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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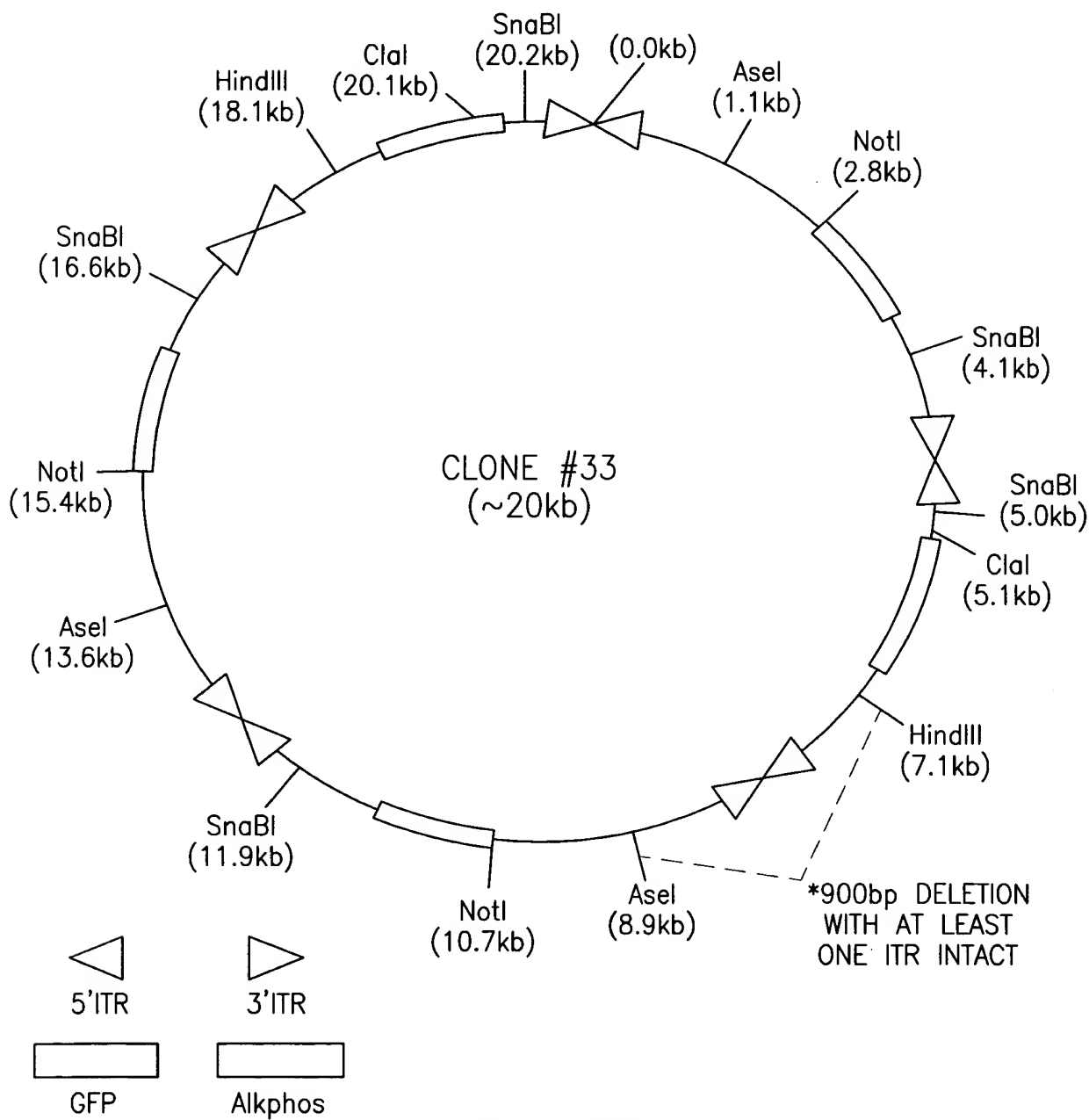


FIG. 18B



TITLE: ENO-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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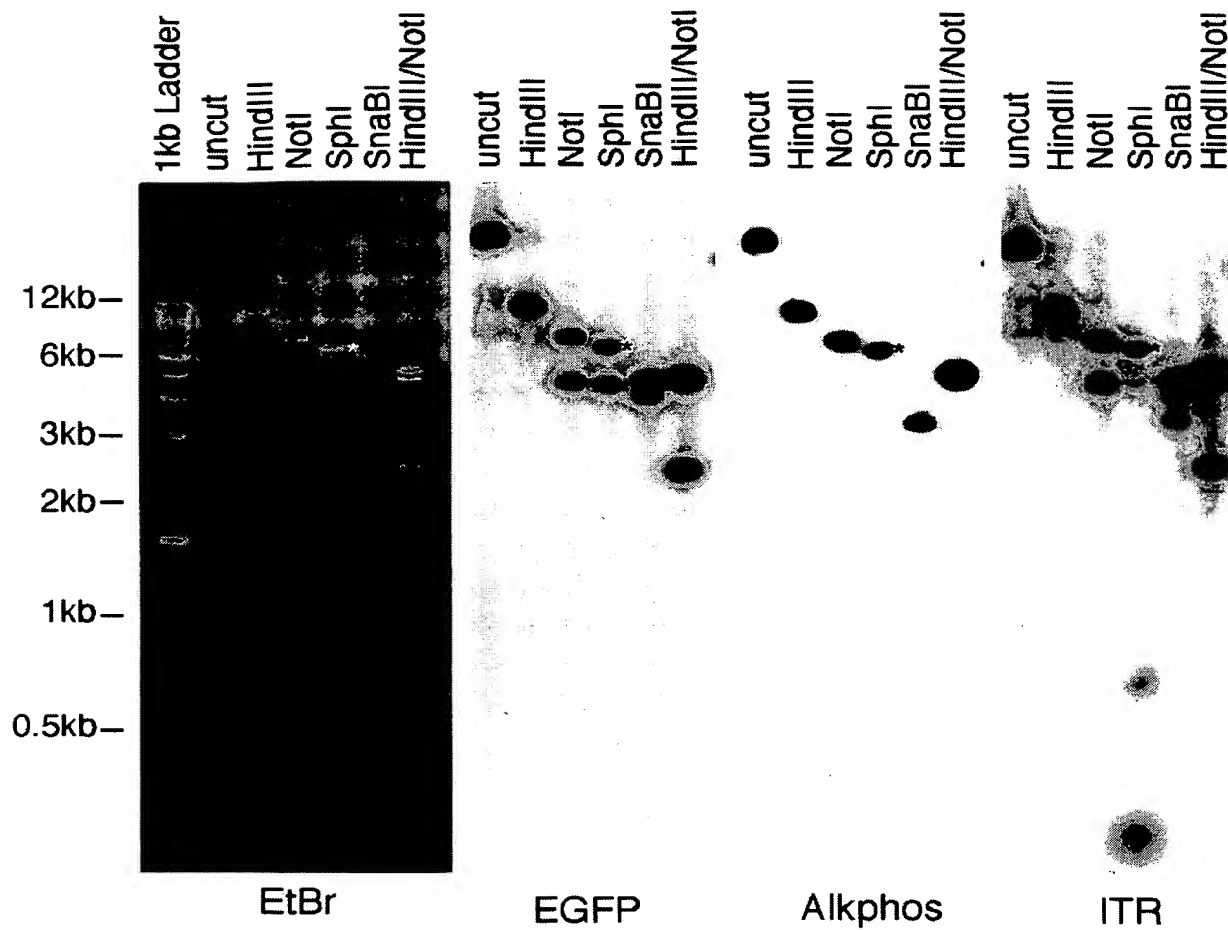


FIG. 18C



TITLE: HEPATOASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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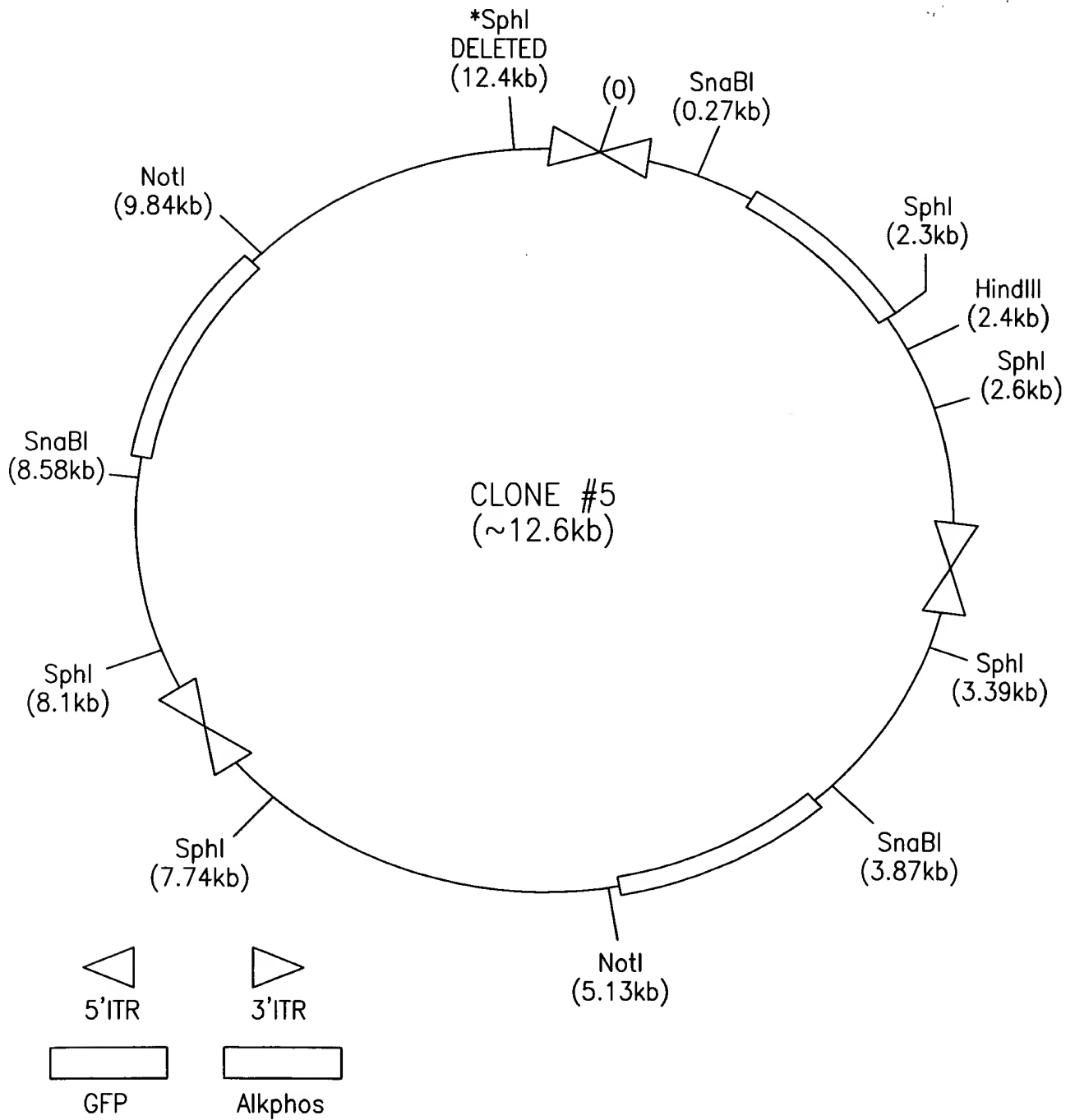


FIG. 18D



TITLE: ●●ENO-ASSOCIATED VIRUS VECTORS AND U●● THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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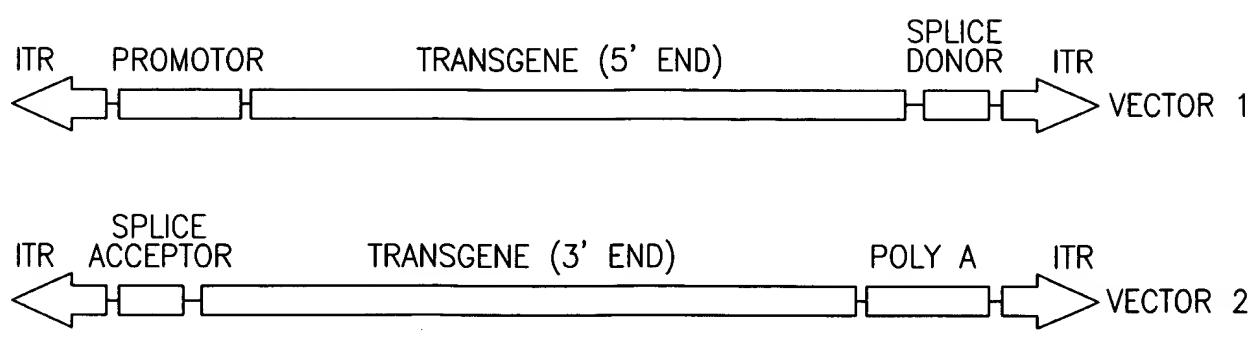


FIG. 19A

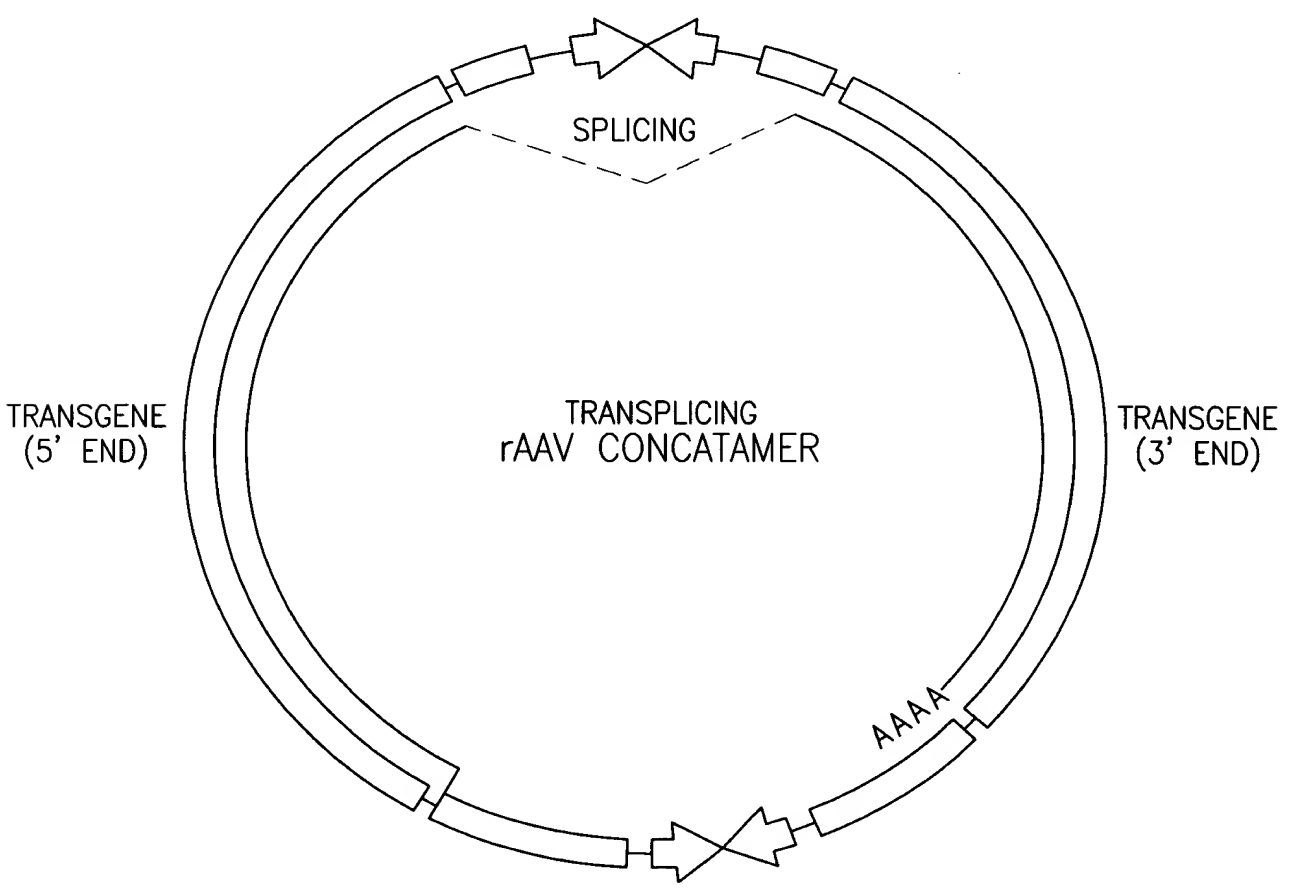


FIG. 19B



TITLE: HEPATOASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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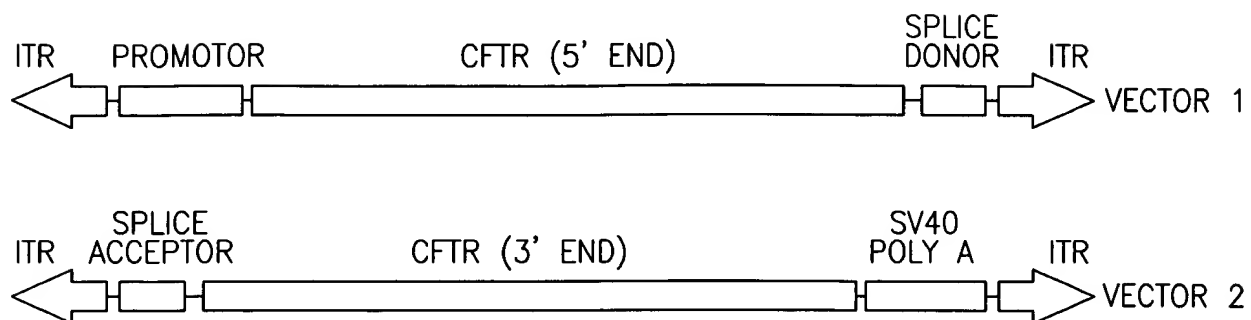


FIG. 19C

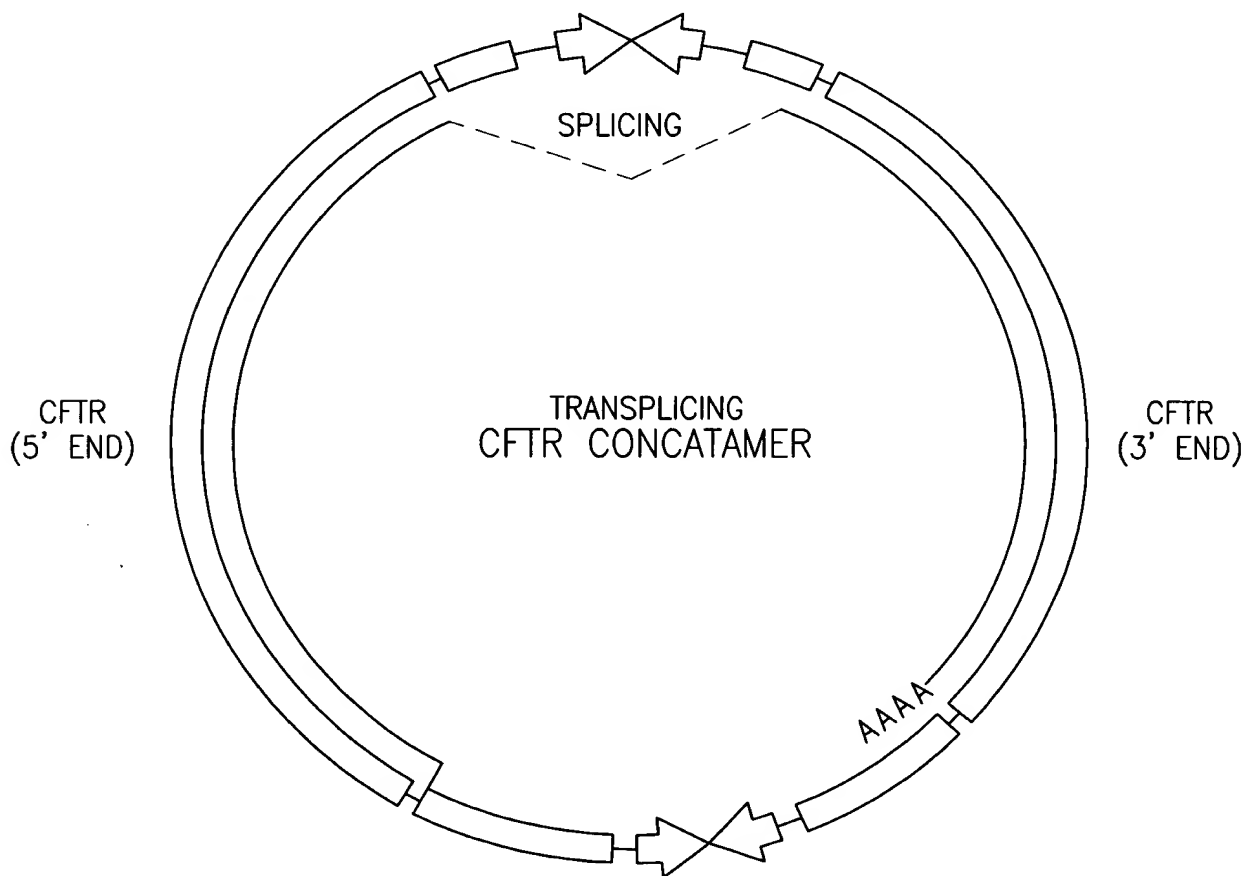
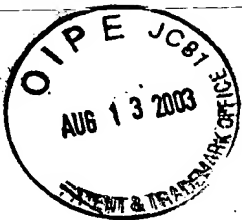


FIG. 19D



TITLE: ENO-ASSOCIATED VIRUS VECTORS AND U THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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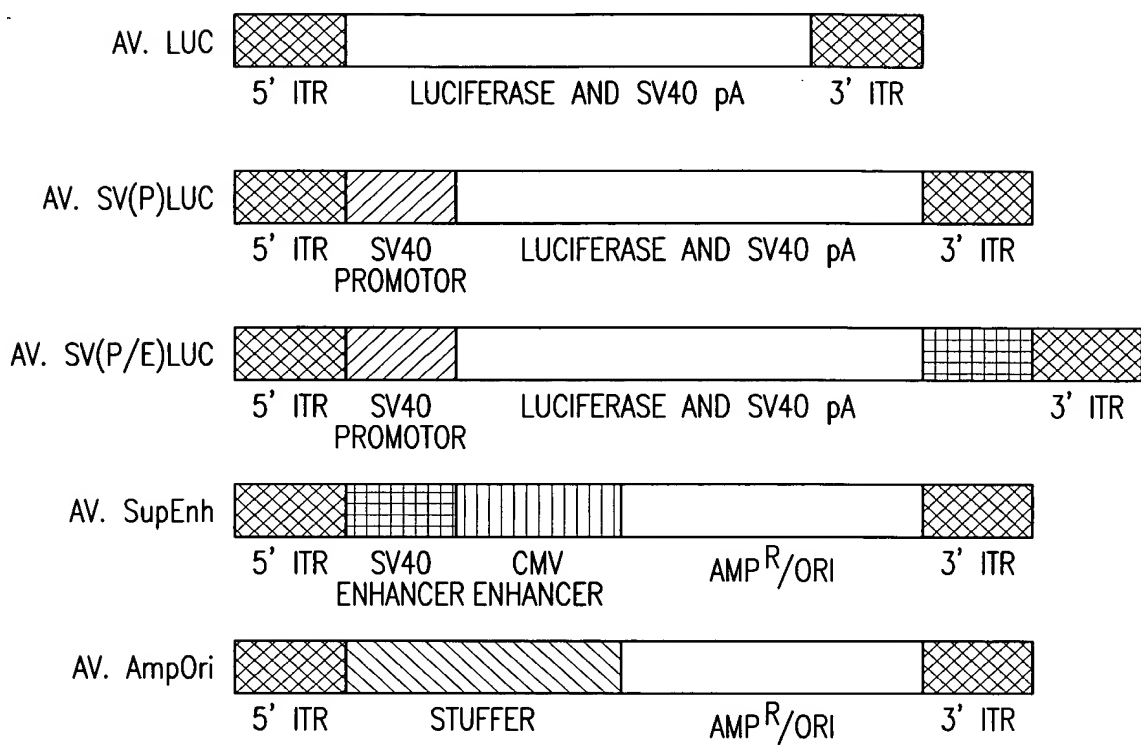


FIG. 20



TITLE: DENO-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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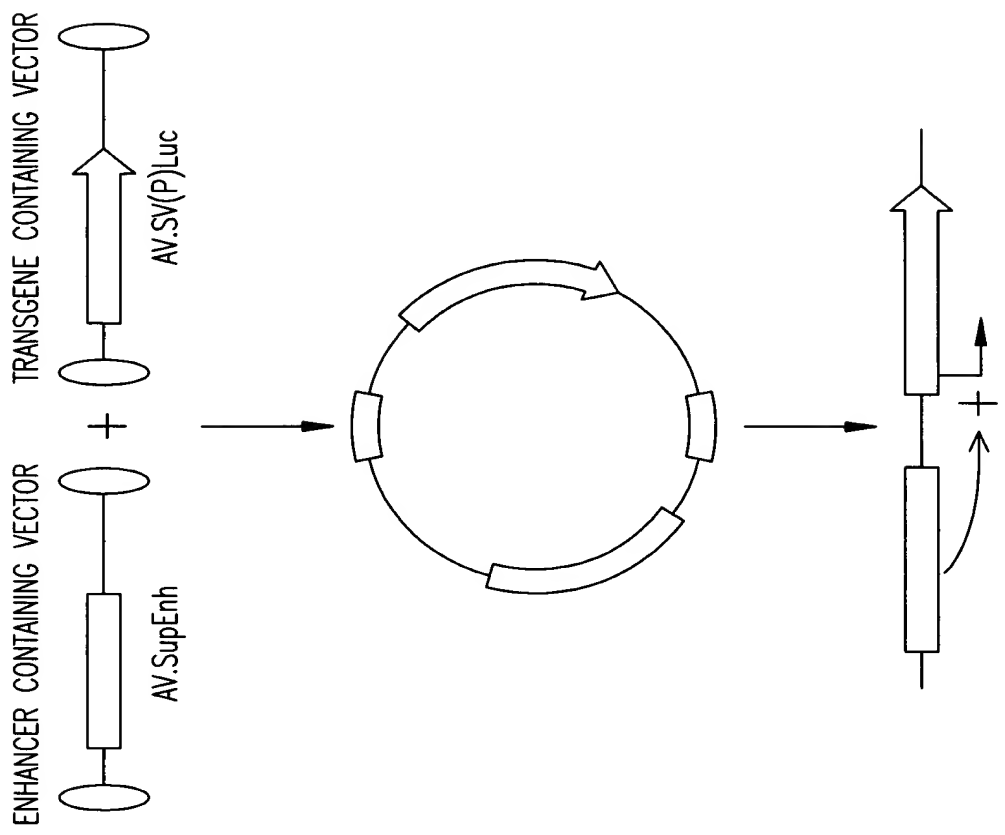


FIG. 21B

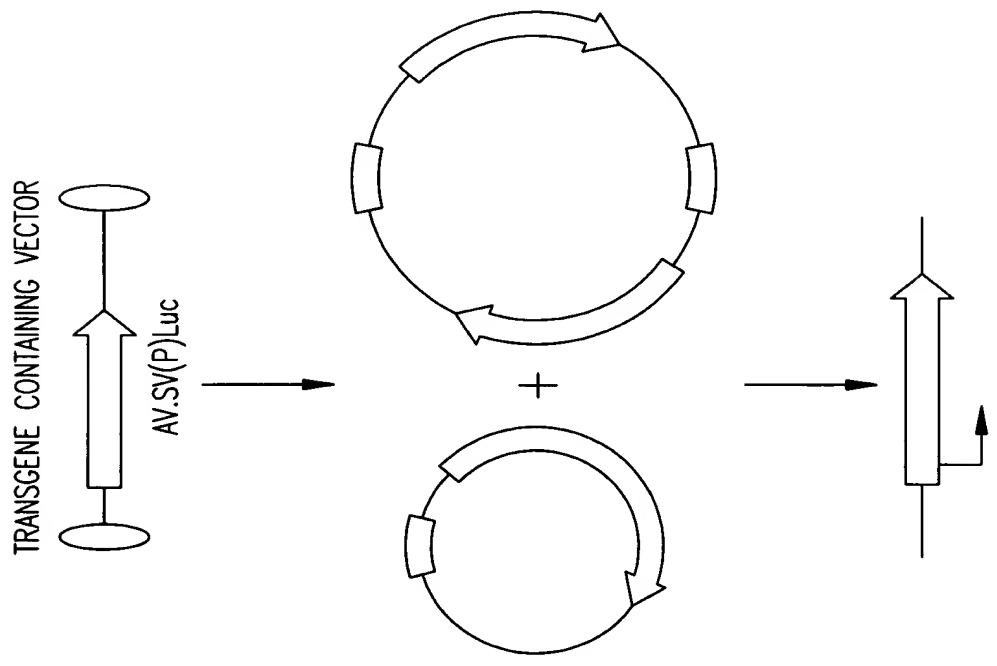


FIG. 21A



TITLE: DENO-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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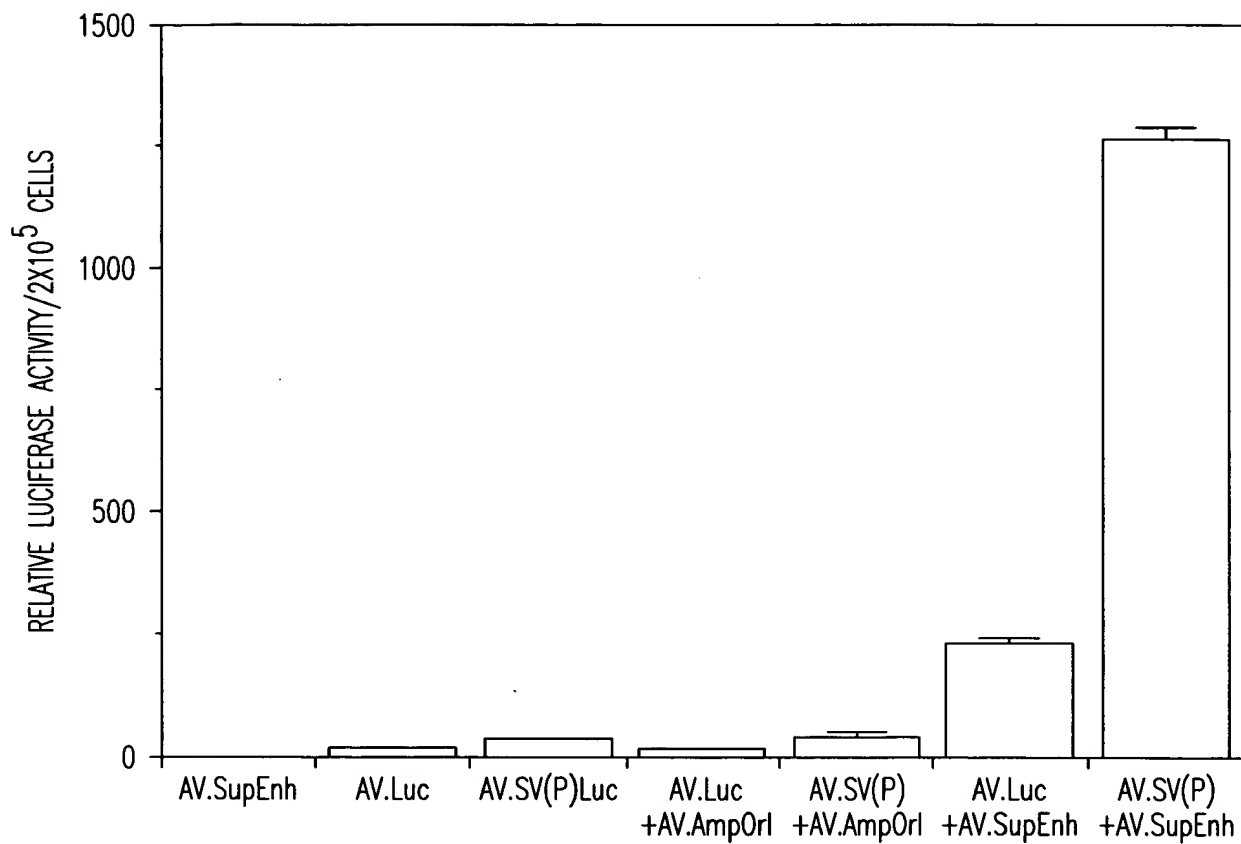


FIG. 22



TITLE: DENO-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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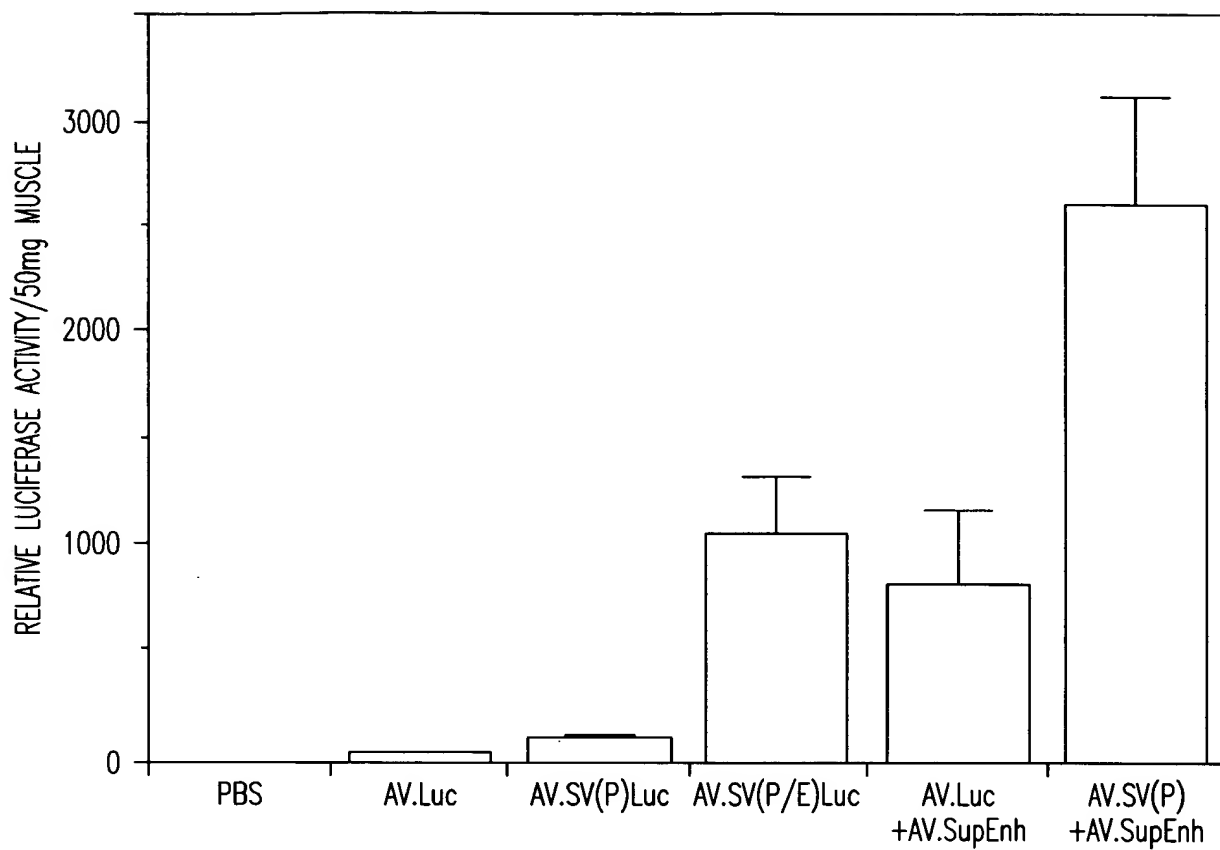


FIG. 23A



TITLE: HEPATOASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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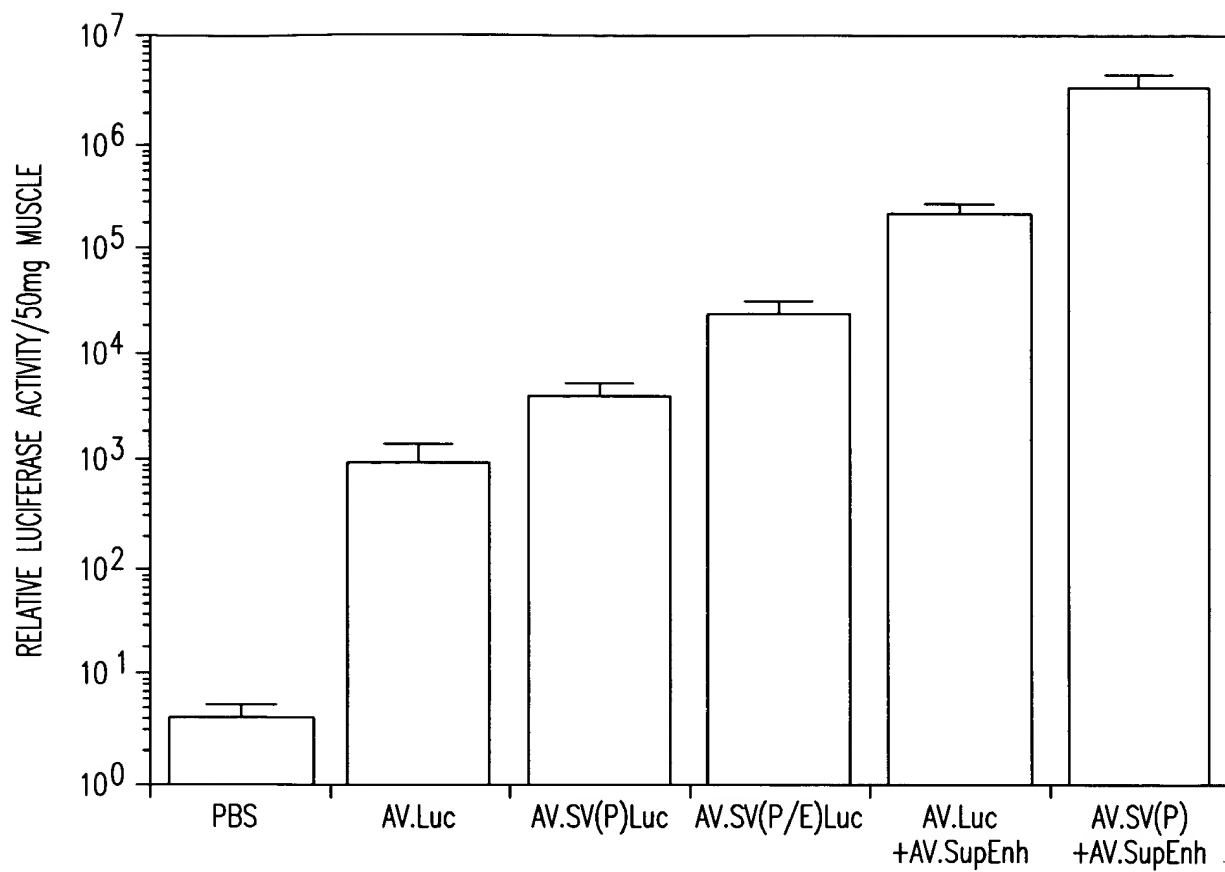


FIG. 23B



TITLE: GENOTOXICITY-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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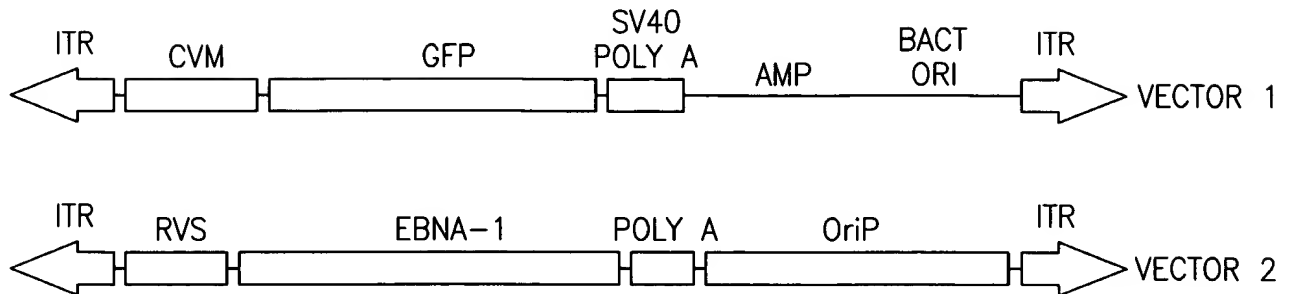


FIG. 24A

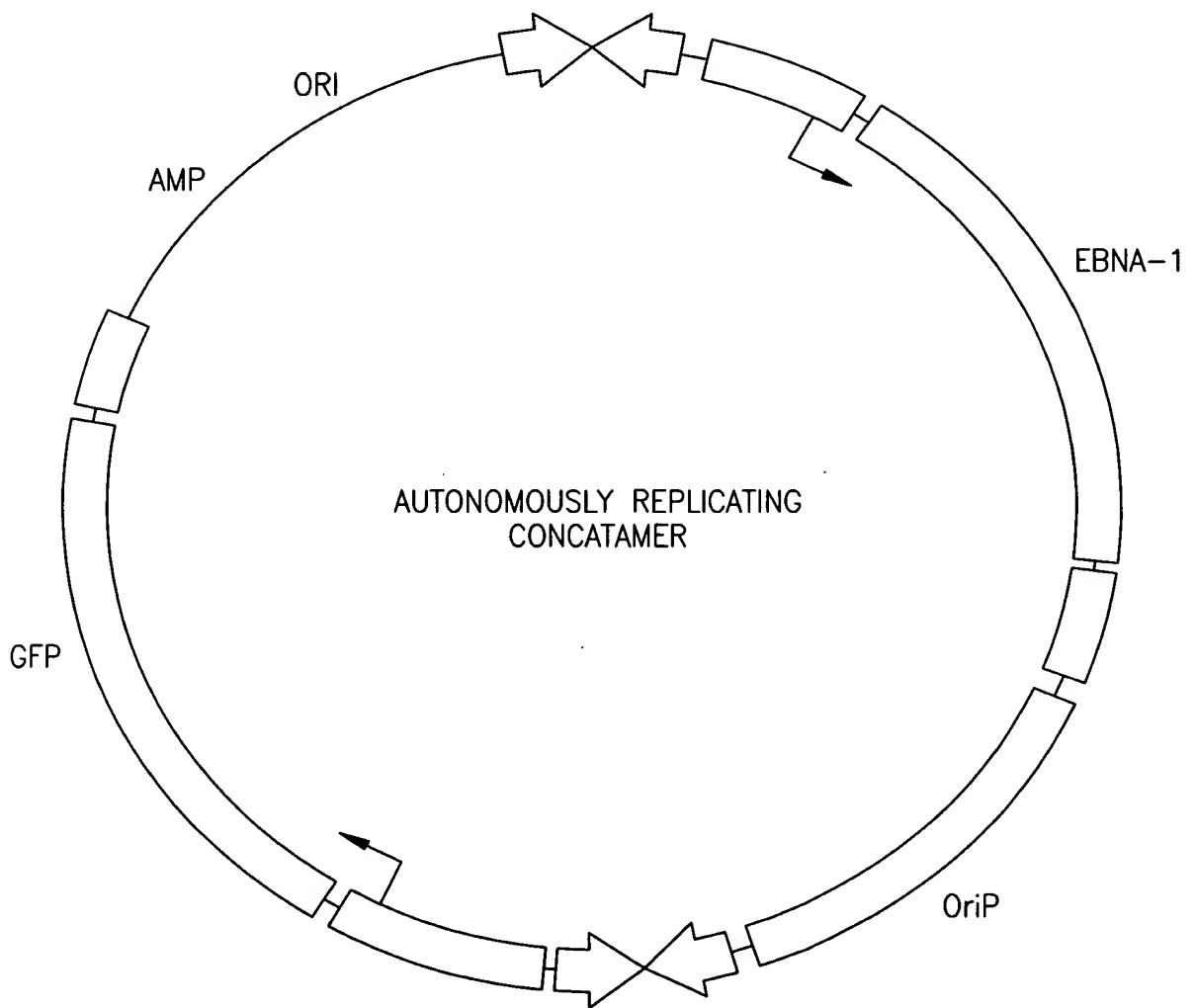


FIG. 24B



TITLE: ENO-ASSOCIATED VIRUS VECTORS AND USES THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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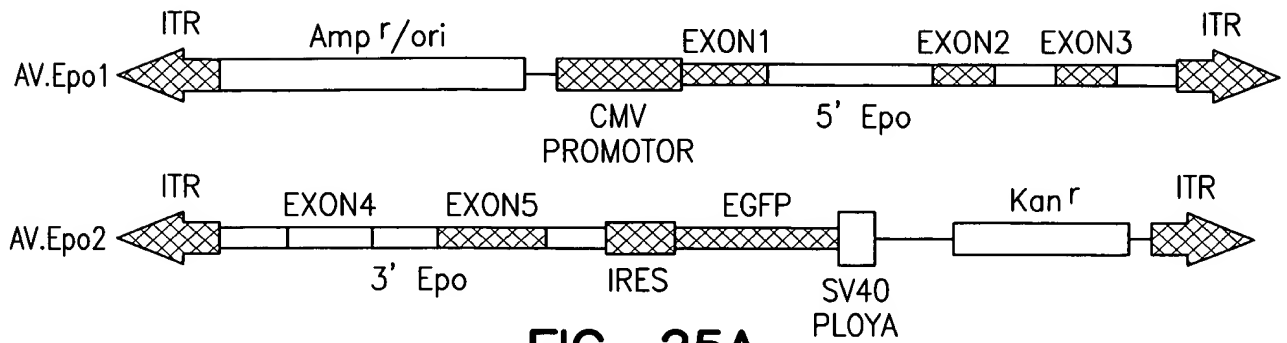


FIG. 25A

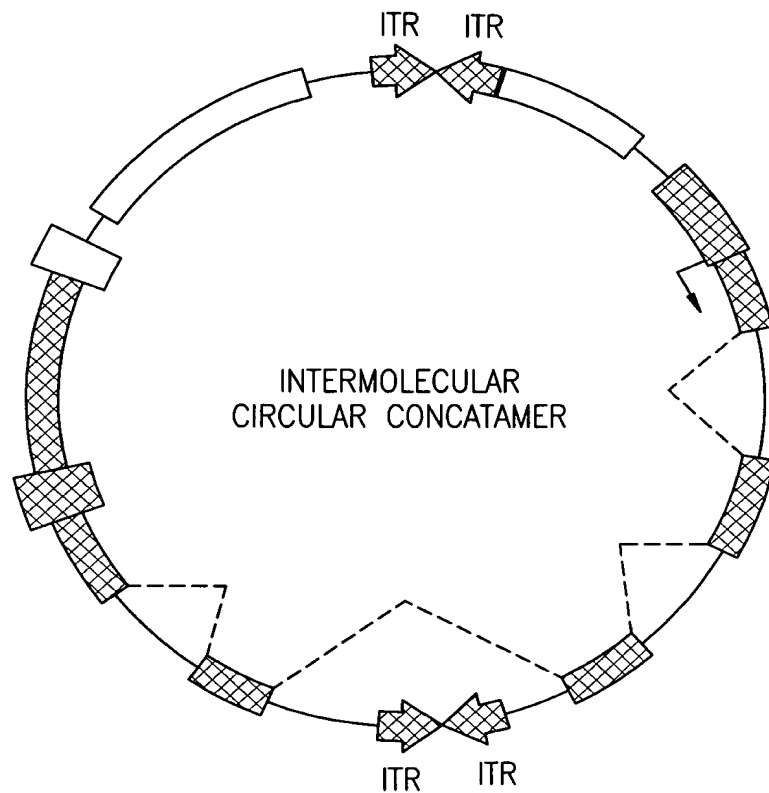


FIG. 25B

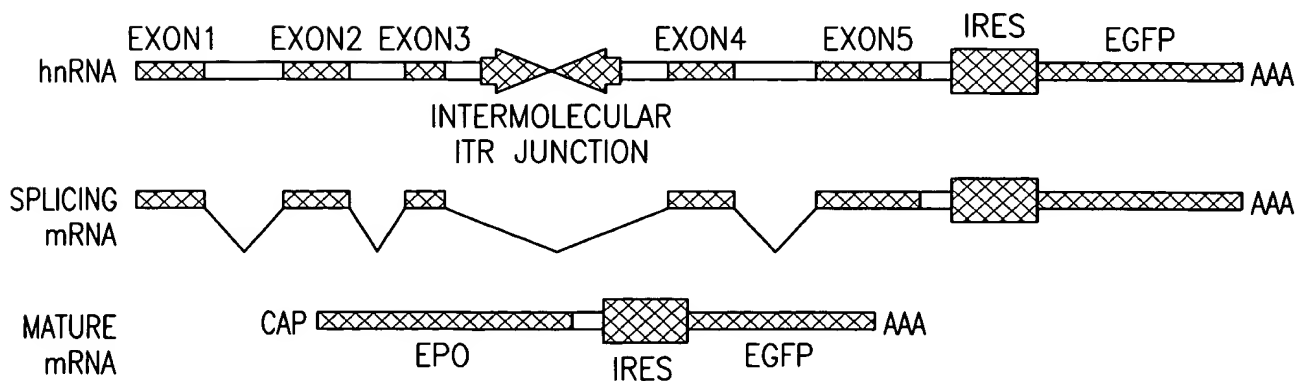


FIG. 25C



TITLE: ENO-ASSOCIATED VIRUS VECTORS AND USE THEREOF
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/684,554

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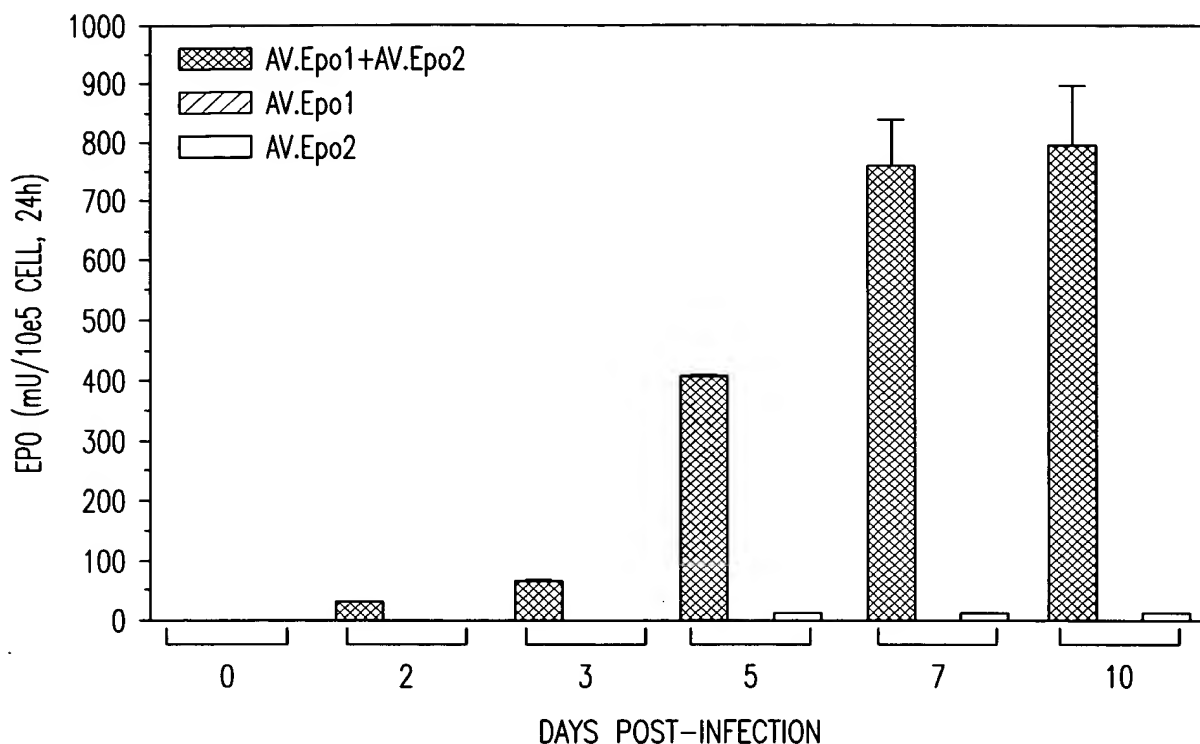


FIG. 26

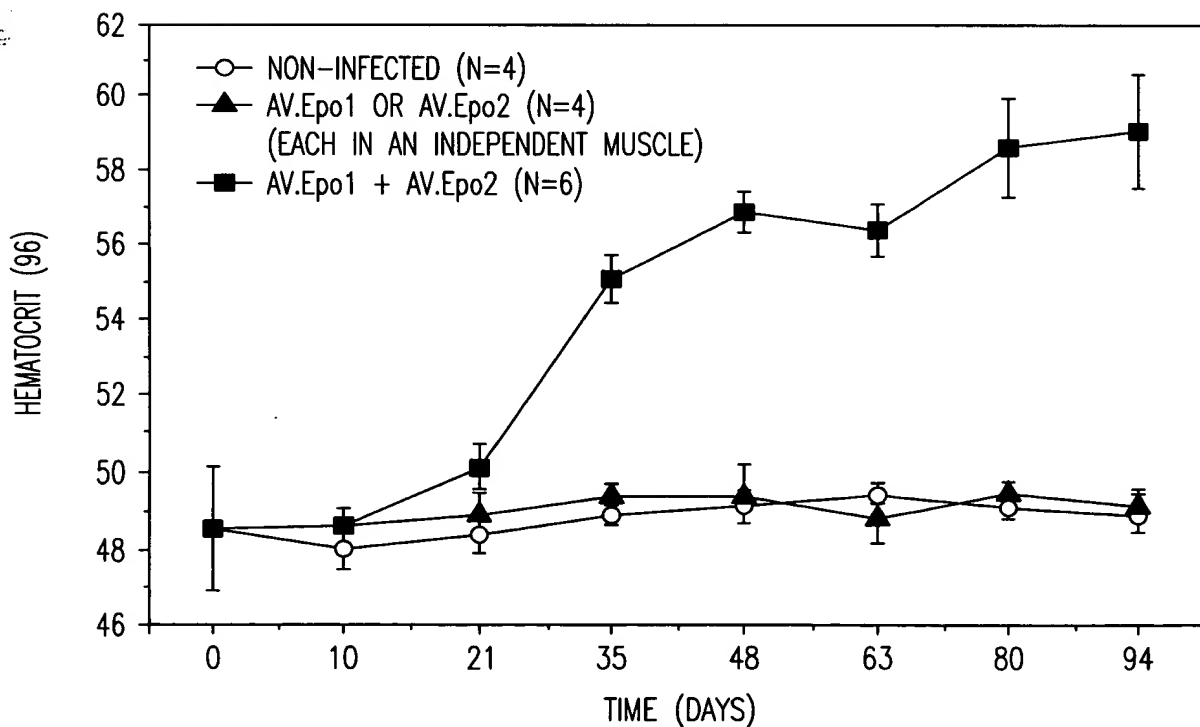


FIG. 27